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*The Editors and members of the
Committee on Publications of
the Canadian Dental Association
take this opportunity of wishing
their many friends throughout
the profession and trade A
Happy and Prosperous New Year.*

New Year's Greeting from Our President

THERE ARE occasions in our lives when retrospection should be indulged in, providing of course that it is resorted to for guidance into the future. We as professional people, and members of a health profession, would be wise to consider seriously our obligations and resolve in this New Year to give even greater attention to those high ideals on which our profession is founded. In the attainment of these high ideals I, your president, on behalf of the Executive and the Board of Governors, wish you and yours all success and happiness in the year ahead.

R. PERC LOWERY

TORONTO, ONTARIO



HENRY L. FREELAND, D.D.S.
Calgary, Alberta
President of the Dental Council of Canada



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Psychosomatics in Dentistry*

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MUCH has been said in recent years on psychosomatic medicine, or the interplay of the emotions on the bodily functions. It is also logical that dentists should consider the feelings and personality of their patients in order to better understand their oral pathoses. Yet, unfortunately, many dentists still think of the emotions in terms of "insanity". Although psychoses may be encountered by the dentist, it is the general medical practitioner who usually meets the psychoses. Only one in fifteen of the general population is apt to develop a psychosis, while up to at least eighty per cent of the patients seen in the dental office have neuroses of various degrees and complain of symptoms which may confuse the dentist in his attempt to try to evaluate the oral pathoses.

A neurosis is essentially a subconscious attempt of the individual to adjust to his environment, while a psychosis is a failure to make that adjustment, and, therefore, a flight from reality.

CONVERSION SYMPTOMS

Psychoanalytic study of neurotic patients shows that under the influence of prolonged emotional disturbances, chronic disturbances of the body may develop, and disturbances of the mouth are certainly no exception. Such chronic bodily changes under the influence of emotion were first noted in hysterical patients, and Freud introduced the concept of "Conversion Hysteria,"

in which emotional conflicts are converted into bodily symptoms. When an emotion cannot be expressed and relieved through normal channels by voluntary activity, the feeling is dammed back until such tension is developed that it breaks out in some physical manifestation. The person is apt to say he feels nervous, has the jitters, or is afraid he will "blow his top."

If the person does not literally "blow his top" and get conscious relief, then the tension will find unconscious outlet and may express itself in headache, tachycardia, gastritis, colitis, or the tissues around the mouth may be used as a means of such expression. Just as the kiss usually expresses oral eroticism, so frustration in this outlet may cause this normal feeling to be converted into oral symptoms, such as gossiping, fingernail biting, smoking, and so forth. The hysterical conversion symptom is similar to any usual voluntary expressive movement, but the motivating psychological impulse is unconscious. If a person decides to run away from a situation, his legs are put into motion under the influence of the will, but, if he feels it is wrong to run away, even though he really wants to do so, his legs may become paralyzed so he can't leave. Similarly, expressive movements, such as anger, laughter, smiling, crying, gesticulating, and so forth, which are based on voluntary processes, may be converted into symptoms that are not influenced by con-

*Presented at the 26th Annual Fall Clinic of the Montreal Dental Club, October 18, 1950.

scious goals. They are a result of emotional tension, which is discharged in a complex physiological pattern. Apart from the fact that the motivating psychological content is unconscious, the only difference between a voluntary act and a conversion symptom is that the conversion symptom is individualistic. They are unique creations of the patient, invented by his unconscious for the expression of his particular repressed psychological content.

PSYCHO-SEXUAL DEVELOPMENT

The human being is born with certain instincts or urges, mysterious innate powers which drive the person in a certain direction without consciousness or deliberation; this is known as the Ego. On the other hand, every adult is supposed to behave according to the way he was trained or conditioned. This conscious behaviour is the result of integration and coordination of nerve impulses; this is known as the Super-ego. Thus, although the person has an instinct which attracts him to the opposite sex and causes him to seek the expression of sexual pleasure, there are many factors which may frustrate this sex instinct and cause conversion symptoms. There may also be frustration of the other Ego urges or non-sexual instincts, and the building up of tension.

The individual goes through certain stages of psychological development while growing up in preparation for assuming his or her role in life, and this process is known as the psycho-sexual development. This is a battle for ascendancy between the Ego and Super-ego. The understanding of this development helps to a realization of why humans act the way they do; why they feel guilty or are frustrated.

During approximately the first eighteen months after birth, the average child goes through a process of physical localization. In other words, during that period the baby is discovering himself or herself physically; and what is true of the boys is just as true of the girls. The baby's lips are the centre of most of his sensation in this period,

and he gets his pleasure through his lips and uses them to feel with. The object that he puts in his mouth may be his finger, or it may be a pacifier. If he sticks his finger in his mouth, he finds there are two sensations. Primarily, there is a sensation in his lips, and there is also a sensation in the object, while the pacifier causes only a sensation in his lips. He, therefore, reasons out that this thing that has two sensations is a part of himself. Therefore, he starts to decide what is himself and what is not himself, and he thus differentiates all the objects about him.

ORAL EROTIC ZONE

Then also he discovers when he is hungry and his stomach contracts, and he cries, an object, his mother's nipple, is placed between his lips, and the hunger contractions are satisfied by his lips. He soon discovers that feeding at his mother's breast is also associated with another pleasant sensation, and he has a certain relaxing feeling, although, of course, this sex feeling as such is not recognized by the child. Because the lips and mouth are the centre of the first acute sensation in the baby, it is called the first zone of pleasure, or the oral erotic zone.

Thus the infant begins to observe situations and orientate himself in the environment through these sensations. The sensations in the lips and mouth are transformed into nerve impulses. These impulses are conducted by the cranial nerves through way-stations to association centres in the frontal lobe, where they are stored, and become adult memories. These memories will remain to plague the individual the rest of his life.

EMOTIONS

As these sensations are interpreted, various emotional states are produced. If the dominant state is fear, pain, anger, or resentment, reaction mechanisms may be set in motion, which in the primitive state may have been advantageous for the survival of the individual. Here the Ego has full expres-

sion. But, in modern life, the manifestations of these emotions may be unacceptable and so are suppressed, and the Super-ego has control, and inner tension is likely to develop. This tension cannot long be continued without release in one form or another, and the release may take the form of neurotic symptoms.

CEREBRAL CONTROL

As medical students, we studied frogs in order to learn something about physiological processes, but we can learn something more from those frogs. A frog can do very well minus a cerebrum. Confine a decerebrated frog and a normal frog under a glass jar and let flies into the jar. The frog that lacks a cerebrum will catch many more flies than his normal companion. In fact, he will catch all the flies, and the other frog none. The cortex of the normal frog evidently makes him subject to inhibitions and fears. He devotes his time and attention to the problem of getting out of the glass jar. The decerebrated frog does not recognize the existence of such an intellectual or philosophical problem. He takes things as they are and is quite content to live a life on a lower plane. Hence he devotes himself unreservedly to catching flies. The brainless frog grows healthy, while the intellectual frog fears, speculates, philosophizes, and starves himself to death. If he were a human, he would develop a neurosis or become insane, and perhaps need shock treatment or a lobotomy.

PAVLOV EXPERIMENT

Every dentist is aware of the pioneer work done by Pavlov with dogs, where he studied the effect of emotion on the flow of saliva. There is no need to give the details of Pavlov's experiment. Suffice it to say that he demonstrated that if the same stimulus were repeated a sufficient number of times under certain environmental conditions, conditioned reflexes were developed, and the dog was unable to discriminate between changing environment or stimulation. In other words, the dog failed

in his adaptation, and this failure to interpret the stimuli correctly resulted in distressing emotional uncertainty, confusion, fear, and frustration, and a neurosis developed.

ACTIVITY OF SALIVARY GLANDS

The existence of secretory nerves to the salivary glands was discovered by Ludwig over a hundred years ago, but he did not tie it up with the emotions. This discovery is particularly interesting in that it marks the beginning of our knowledge of this kind of nerve fibre. Ludwig found that stimulation of the chorda tympani nerve causes a flow of saliva from the submaxillary gland. It was later shown that the salivary glands have a double nerve supply. They are affected by both the cervical sympathetic and the cerebral nerves. It was discovered also that not only are secretory fibres carried to the glands by these paths, but that vasomotor fibres are contained in the same nerves, and the arrangement of these latter fibres is such that the cerebral nerves contain vasodilator fibres that cause a dilation of the small arteries in the glands and an accelerated blood-flow, while the sympathetic carries vasoconstrictor fibres whose stimulation causes a constriction of the small arteries and a diminished blood-flow. If the chorda tympani nerve is stimulated by weak induction shocks, the gland begins to secrete promptly, and the secretion, by proper regulation of the stimulation, may be kept up for hours. The secretion thus obtained is thin and watery, flows freely, and is abundant in amount. At the same time there is an increased flow of blood through the gland. The whole gland takes on a redder hue, the veins are distended, and if cut, the blood that flows from them is of a redder colour than in the resting gland, and may show a distinct pulse. If the sympathetic fibres are stimulated, the secretion is relatively small in amount, flows slowly, is thick and turbid, and contains a higher percentage of solids. At the same time, the gland becomes pale, and if the veins be cut, the flow from them is slower than in

the resting gland, thus indicating that a vasoconstriction has occurred.

If the chorda tympani is cut, the submaxillary gland, after a certain time, begins to secrete slowly, and the secretion continues uninterruptedly for several weeks, and then eventually the gland undergoes atrophy. Section of the chorda on one side is followed by a continuous secretion from the glands on both sides. This continuous secretion is due to a continuous excitation of the local nervous mechanism in the gland. Normally, the activity of the sympathetic cells or of the secreting cells is kept in check by inhibitory fibres. After section of the chorda, the action of these fibres fails, and the secretion continues until the glandular tissue undergoes atrophy.

REFLEX STIMULATION

Under normal conditions, the flow of saliva from the salivary glands is the result of a reflex stimulation of the secretory nerves. The sensory fibres concerned in this reflex must be chiefly fibres of the glossopharyngeal and lingual nerves supplying the mouth and tongue. Chemical or mechanical stimuli applied to the tongue or mucous membrane of the mouth will produce a flow of saliva. The normal flow during mastication is affected by a reflex of this kind, the sensory impulse being carried to the nerve centre and thence transmitted through the different nerves to the glands. It is found that section of the chorda prevents the reflex, in spite of the fact that the sympathetic fibres are still intact. The three salivary glands respond normally to different stimuli. The parotid and the submaxillary may react quite differently.

The submaxillary responds to a great number of stimuli, such as the sight of food, chewing of meats, acids, etc. The parotid, on the other hand, reacts only when dry food, such as dry powdered meat or bread is placed in the mouth. Dryness in this case appears to be the necessary stimulus.

The flow of saliva is normally a definite reflex, stimulated by the saliv-

ary secretion centre, in the medulla oblongata, in the formatio reticularis, lateral to the facial nucleus. This centre may be called into activity by stimulation of the sensory fibres of the sciatic, splanchnic, and vagus nerves. Also, the thought of food and the feeling of nausea preceding vomiting, may be accompanied by a flow of saliva. This effect is due to stimulation of the secretion centre by impulses descending from the cerebral cortex. But the medullary centre may be inhibited as well as stimulated, and fear, embarrassment, or anxiety will produce a parched throat.

Every dentist is aware of these emotional effects on the secretive functions, and that this parasympathetic response is definitely affected by the severance of the cervical sympathetic trunk. A microscopic examination of the mucous membranes after operation indicates that the mucosa becomes pale and oedematous. When there is an increase in the secretion, the secretion contains many eosinophils. If there is over-activity of the parasympathetics, there is a paravenous infiltration and general oedema of the mucous membranes.

PSYCHOGENIC FACTORS

One could theorize at length on the psychogenic factors in periodontal disease, but it is a well-known fact that individuals build up resistance against dentists for one or another reason and, consequently, do not receive routine dental care. Individuals may be either fearful of the pain involved in such care, resist the attentions of the dentist for personal reasons, or reject such care by identifying themselves with parents who have expressed such resistance.

From the analytic standpoint we know that the teeth may represent phallic symbols, and, therefore, resistance may be built up because of the sex conflict involved. In certain cases it is clearly brought out in analysis that a castration complex may develop, and the individual in his masochistic trend may unconsciously demand the

extraction of the offending member. When such emotional mechanics are operative, the dental surgeon may be confused in his diagnosis. On occasions the psychiatrist sees patients who, in their adolescence, have been fondled by their dentist and, therefore, have associated dental care with sex stimulation. Where the individual has had an earlier sex conflict over fear of masturbation or rape, the patient may have extreme emotional tension which centres itself primarily around the teeth. Going further into the oral erotic factors, we occasionally see cases of oral eroticism which expresses itself in fellatio, and again the affectual feeling may be transferred from the phallus to the phallic symbol.

FEELING OF GUILT

The patient's feeling that the mouth is "dirty" may result in excessive trauma to the periodontal tissues, and over-concern may be given to brushing the teeth and mouth-washing. Individuals who have become conscious of their oral eroticism may reject care of their teeth because they associate such manipulation with their guilt towards masturbation. These patients may actually extract their teeth in their attempt to try and castigate themselves for this feeling of guilt. Gingivitis with resultant pyorrhea and loosening of the teeth may be on such a basis.

ANGIONEUROTIC OEDEMA

Angioneurotic oedema, which is generally thought to be associated with an allergy, may be precipitated emotionally. This oedema may be restricted to the lips or may even extend to the membranes of the mouth. Actually, under emotional stress, haemorrhage from the gums may result, and for many years it has been known that at the time of menstruation this bleeding is more easily precipitated in the form of vicarious menstruation. Every dental surgeon has been aware of cases that have been excessive bleeders after extraction, and, although organic factors, such as low clotting time and

other blood dyscrasias may be present, the psychogenic factors should never be overlooked.

THE TONGUE

Since the tongue is frequently a mirror of disease elsewhere and often is used as a substitute for the phallus, it is well for the dentist to thoroughly investigate any patient who shows a glossitis or injury to the tongue. The history may reveal possible irritants, contact allergens, deficient diet, and systemic disease elsewhere, which may have a psychogenic basis. Tongue sucking is definitely on an emotional basis and may, therefore, be detected in the appearance of the tongue. The clinical manifestations of glossitis vary widely. Reddened tip and edges of the tongue usually indicate excessive smoking, which, of course, is on a psychogenic basis. Scars on the tongue, or bitten edges, are frequently found in persons subject to epileptic convulsions. In individuals who have had an irregular type of diet, and who have been under emotional tension, the entire tongue may be fiery red, swollen, and often ulcerated. Denuded and smooth areas may also come from traumatization of the tongue due to emotional tension. Individuals who have been excessively concerned with the hygiene of the mouth may indulge in self-administration of penicillin lozenges, or other biotics and excessive use of oxygen-liberating mouth washes may cause a black, hairy tongue, followed by pigmented profuse overgrowth. The coating becomes browner and drier in exhaustion. Just as manifestations of hysteria may be seen on the body surfaces as a result of scratching or other traumatization, so these manifestations may be noted on the tongue.

In paralysis and in neuralgia, the tongue is often unilaterally furred from disuse. The "coat" so frequently seen on the tongue is composed of microorganisms, food, and epithelial debris. It accumulates during sleep, and is removed by the friction of the

tongue movements during waking hours. Hence, it is more marked before breakfast. The dry, brown and shrunken tongue is seen characteristically in exhausting illnesses, whether acute or chronic. There are sordes on the teeth, and the tongue is traversed by cracks. The bare, red tongue may also be dry, cracked and shrunken. This may be due to avitaminosis, but its origin may be "dyspeptic".

STOMATITIS

A multiplicity of disease agents may produce stomatitis, but mechanical trauma from cheek-biting, finger sucking, fingernail biting, and mouth breathing, all of which are conditioned activities, are common causes. Just as in glossitis, stomatitis may result from excessive use of either alcohol or tobacco, which again is psychogenic. Stomatitis may give an indication of an underlying emotional problem which requires the administration of certain drugs such as hydantoin, the barbiturates, and the iodides. As previously stated, obsessive ideas about mouth hygiene may cause the patient to traumatize the mouth with toothbrush, toothpaste, mouth washes, and toothpicks. The ulcers which form may simply be secondary to the initial emotional tension.

PAIN

It is a well-known fact that the interpretation of painful stimuli depends a great deal on the integration of the individual involved. Therefore, a person's reaction to a toothache varies with each individual. Odontalgia, or the pain resulting from the inflammation of the dental pulp, may be entirely psychogenic, although it is fully realized that dental caries exposing the pulp of the tooth may cause painful stimuli. This might be either thermal or mechanical, chemical or bacterial. Since the dental pulp is a mass of vascular tissue, the same rules which cause congestion in tissues elsewhere, such as blushing as an emotional response, may increase the pres-

sure within the pulp space with the resultant pain due to stimulation of the nerves that enter the root canal. Continued congestion of these tissues, of course, sets up a definite neuritis. Every dentist has had the experience of having a patient complain of pain in a devitalized tooth. This may either be referred or may be a conversion symptom. It is also well-known that individuals who have had their teeth extracted may complain of discomfort in a certain area of the gum without evident pressure or other pathosis.

Dental caries is, of course, a pathological process marked by gradual dissolution and disintegration of the enamel, dentine and eventually of the pulp of the affected tooth. It is the consensus of present knowledge that no single agent is responsible for dental caries, but it is accepted that the acid formed on the surface of the teeth is an important factor in the decalcification of the enamel, and, as previously stated, the emotional attitude of the individual may very definitely affect the chemical reaction in the mouth. Also, individuals who are emotionally upset may not take the proper diet, or take diets with insufficient coarseness, and thus, indirectly, the emotions in such cases have an effect on the hygiene of the teeth. Malnutrition, either in the formative period of the individual or in adult life, definitely interferes with the composition of the saliva and with its neutralizing and anti-bacterial properties. One has but to notice the high-pressure salesmanship in the various types of dentifrices to realize the importance of psychogenic factors in tooth hygiene.

Most people are fearful of pain. Consequently, they are apt to postpone regular visits to the dentist because of this possibility. Children have observed their parents complaining of contacts with the dentist, and, as a result, themselves grow up with a fear of such encounters. Actually, this fear may become a fixed phobia, and every psychiatrist has encountered individ-

uals who have such phobias. The fear of pain may be referred to the environment so that the individual may be either afraid of the dentist himself, or of individuals that appear similar. Or the individual's phobia may be one of fear of confining places, such as a claustrophobia, or a fear of asphyxiation, or of being choked, because of the sensation that has been experienced while having his teeth taken care of under an anaesthesia. The mouth gag may give the patient the feeling he cannot breathe.

ORTHODONTICS

Any consideration of dental problems must, of course, consider malocclusion, as such deformities seriously affect the psychological adjustment of the individual. Malocclusion seriously interferes with effective chewing, speech, facial attractiveness and social adaptability. The orthodontic problem is usually manifested during the formative years, and, although the aetiology may be hereditary, congenital, or due to poor hygiene, it frequently is due to psychopathology, such as thumb-sucking, tongue-thrusting, etc. Malocclusion can create a complex syndrome, which leads to lack of self-confidence, feelings of rejection, introversion, and even a schizoid personality. The earlier the condition is corrected, the less fixed becomes the conditioning of the individual.

PSYCHOTHERAPY

Since emotional factors are of casual significance in functional disturbances, psychotherapy can no longer be restricted exclusively to the field of psychiatry. The chronic emotional conflicts of the patient, the ultimate cause of the disturbance, has to be resolved by psychological treatment. Since these emotional conflicts arise in the patient's relationships with other human beings, the personality of the patient becomes the subject of therapy. In cases of organ neuroses or conversion hysteria, the emotional

influence of the physician upon the patient proves to be the main therapeutic factor.

Many dental patients are amenable to suggestion, or hypnosis. Such suggestion may be used for relaxation and relief of pain during dental operation. The dread and fear of the hypodermic needle and the dental drill may thus be removed and anaesthesia induced. Particularly suggestable patients have been so treated that, at a given signal, the patient immediately enters a trance state and displays a total insensibility to pain. No sound or noises will disturb him. Once such anaesthesia has been produced in a patient, it may be localized in any part of the body.

Bartley and his co-workers report that all types of operations have been performed under hypnosis: cavity preparations and fillings; the taking of impressions for full and partial dentures; the establishment of correct vertical dimension, and the establishment of correct maxillary mandibular relationship; the extraction of teeth, and the setting of immediate dentures; maintaining anaesthesia of the mouth during the healing period; preparation and setting of fixed bridge work; the removal of impacted lower molars; the removal of vital pulps; endodontic treatment of root canals, and apical curettage with control of haemorrhage and saliva.

The use of hypnosis in dental procedures is limited by the fact that not all persons will allow themselves to go into the hypnotic trance, and only a quarter of the subjects inducted into the trance are capable of achieving a sufficiently deep hypnotic state to make these procedures possible. Chemical anaesthetics, on the other hand, have been generally fool-proof and applicable to the majority of people. Where, for any reason, chemical anaesthesia is contraindicated, or where the patient is known to be a good subject, hypnotic anaesthesia may be attempted.

In the majority of cases, four or

five induction sessions will be required before an operation is possible. Once the patient has been trained to achieve anaesthesia, a post-hypnotic suggestion may be given him to the effect that he will, at a given signal, immediately enter a trance and display a total insensitivity to pain.

The anaesthesia under hypnosis is profound, and, except for major surgical procedures, is as effective as chemical anaesthesia. Obvious advantages are the ease of administration, the immediate removal of anaesthesia when desired, and the absence of postoperative reactions to the anaesthetic. Also, post-hypnotic suggestions may be given to prevent postoperative pain. Where a major surgical operation is required, a small amount of chemical anaesthetic may be administered to reinforce the hypnotic anaesthesia.

Hypnotic anaesthesia, once it has been produced in the patient, can thereafter be invoked in a few minutes. The period of training required to induce hypnotic anaesthesia is justified since, once achieved, it can be obtained almost immediately for years thereafter. Once obtained, it can be localized in any part of the mouth. The patient may be placed in any position desired, and gags, mouth props and retentive devices are not necessary. There is an absence of nausea and sickness which occur in other dental anaesthetics.

Hypnosis in addition to being used as an anaesthetic, may be used as a therapeutic agent. Through suggestion, preoperative fear and dread may be removed, and more rapid healing and the arrest of haemorrhage may be effected. It also acts as a psychologic aid in helping people get used to dentures.

Suggestion is, of course, not limited to hypnosis, nor is hypnosis the only form of psychotherapy that the dentist can use. Every practitioner has used reassurance, and certainly he has found that by getting the patient to talk, much of the tension and fear can

be relieved. Of course, where a patient is encountered who has been badly conditioned throughout his life and has a severe neurosis, then it is advisable for the dentist to refer his patient to a psychiatrist for intensive psychotherapy. It must not be forgotten that the transfer situation should be handled with insight, or the emotional conflict may be aggravated rather than helped by attempts at psychotherapy.

SHOCK THERAPY

An occasional patient may be seen who is so mentally disturbed that shock therapy of one form or another is indicated. The patient may have refused all dental care, but, after a short course of shock treatment, he may be amenable to suggestion and reason and may then undergo the needed oral hygiene. This treatment, of course, has to be administered by an experienced psychiatrist.

DRUG THERAPY

Every dentist is aware of the use of analgesics and sedatives, but it cannot be overemphasized that the drug should be fitted to the patient, and not the patient to the drug. Some of the barbiturates and opiates cause excitement rather than calm the patient, and some drugs, such as sulphanilamide and penicillin, may actually precipitate a psychosis or anxiety state.

DISCUSSION

It is evident that there is no strict distinction between "functional" and "organic" disease. From what has been said before, functional disorders of long duration may gradually lead to serious organic disorders associated with morphological changes. In general medicine it is a well-known fact that hyperactivity of the heart may lead to hypertrophy of the heart muscles, or that hysterical paralysis of a limb may lead to certain degenerative changes in the muscles and joints because of inactivity. Increased acidity in the stomach because of

anxiety may lead to gastric ulcers; or hyperperistalsis of the colon, because of tension states, may lead to ulcerative colitis. So, excessive desire to keep the mouth "clean" may lead to a stomatitis or gingivitis. There is ample evidence that emotional conflicts may cause continued fluctuations of blood pressure which in time overtax the vascular system. This functional phase of fluctuating blood pressure may in time cause organic vascular changes, and finally an irreversible malignant form of hypertension may ensue. A functional disturbance of long duration in any organ may lead finally to definite anatomical changes and to the clinical picture of severe organic illness.

Alexander speaks of "psychogenic organic disorder". These disorders, according to this view, develop in two phases: first, the functional disturbance of a vegetative organ is caused by a chronic emotional disturbance; and second, the chronic functional disturbance gradually leads to tissue changes, and to an irreversible organic disease.

A final word needs to be said about the dentist himself. Dentists, like physicians, are human, and have all the human ills. Therefore, the dentist should realize that he can blind himself by his own prejudice and not see what may be obvious to others who are not so specialized. He may blame everything on the wisdom teeth,

pulp-stones, leaking fillings, malocclusion, and so forth, and entirely overlook the underlying personality. To understand his patient, he should first understand himself.

CONCLUSION

Dentists need to consider the psychosomatics of themselves as well as of patients. Many of the pathological conditions found in the mouth may be caused by, or aggravated by, the emotional state of the individual, and the dentist needs to understand how he can relieve these tension states.

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Editor's Note: In the discussion period following Dr. McCartney's address, he emphasized that thumb-sucking was a symptom of emotional tension, and that the cause should be removed without delay, as continuance of the habit causes further emotional difficulty. It is necessary to remember that no symptom can be removed by admonition or punishment, but must be replaced by something more desirable. Since thumb-sucking is a symptom of an unsatisfied oral tension and is usually associated with a lack of adequate love, the baby should be cuddled and shown affection during the feeding period, even though not breast fed. The lack of such bodily contact in the bottle fed baby definitely leads to a sense of deprivation and insecurity.

In the discussion Dr. McCartney pointed out that the average child reached the full growth of his intelligence at the age of fourteen, although beyond that age the child continues to acquire knowledge. It is, therefore, necessary to realize

that the average child has full power of reason in his early teens and should be treated with the respect that is accorded an adult.

Several questions were put to Dr. McCartney concerning the place of punishment in child training. He emphasized that no child needed corporal punishment, and that should a parent start out with using corporal punishment, the child is conditioned to knowing only such a method of control. What is most needed in child training is understanding, love and affection, allowing the child to fully realize that the parent is fair and reasonable. This does not mean that a child should be pampered or spoiled.

Résumé

Les dentistes, comme les médecins, sont des êtres humains et comme tels, sont sujets aux erreurs. C'est pourquoi, le dentiste doit réaliser qu'il peut avoir des ocellères et ne pas apercevoir une évidence qui saute aux yeux d'autres dentistes qui ne sont pas butés à une idée. Il blâme les dents incluses, les nodules pulpaire, les obturations défectueuses, une malocclusion, etc., sans songer à l'individu qu'il traite. Pour comprendre son patient, le dentiste doit d'abord se connaître.

Plusieurs des états pathologiques de la cavité buccale peuvent être causés ou aggravés par les dispositions mentales du patient. Le dentiste doit être en état de soulager ces tensions nerveuses.

ANNOUNCEMENT

The National Research Council of Canada Associate Committee on Dental Research is offering a limited number of Graduate Dental Research Fellowships for promising graduates in dentistry.

The Fellowships are designed to provide advanced training and experience in research in one of the sciences basic to dentistry. Fellowships will not be awarded to graduates in dentistry for the purpose of providing practical training and experience in the clinical branches of dentistry.

Fellowships of the value of \$1,500 per annum will be open to graduates in dentistry with high academic standing, who have spent at least one year in postgraduate training.

Fellowships of value of \$1,600 to \$2,500 per annum will be open to graduates in dentistry who have had experience in research work. The value of the Fellowship will depend on the candidate's training and achievement in an original research.

A grantee authorized to hold an award at a university in Canada or the United States, other than that at which he has been located during the preceding year, may be paid a travelling grant at the discretion of the Council.

In addition, for travel to Europe, the Council will pay tourist ocean fare plus rail coach fare less \$15 up to a maximum of \$250 each way. A further grant equal to two-thirds of this total amount will be paid towards the travelling expenses of a married Fellow when accompanied by his wife.

Application for a Dental Research Fellowship must be made not later than February 1.

Address all communications to:

The General Secretary,
National Research Council
Ottawa, Canada.

Perpetual devotion to what a man calls his business means perpetual neglect of many other things.—Robert L. Stevenson

"Men must be governed by God or they will be ruled by tyrants."

Report on Australian Trip

by DEAN ROY G. ELLIS, Toronto, Ontario

THE writer was privileged during the summer months (August and September) to visit New Zealand and Australia. In this report the remarks must be limited to some observations regarding dentistry in Australia. The pleasure and satisfaction experienced in returning after many years to one's native soil was deepened in this instance by virtue of a responsibility assigned through the appointment as the Official Delegate of the Canadian Dental Association to the Twelfth Congress of the Australian Dental Association.

THE AUSTRALIAN DENTAL ASSOCIATION

The National Dental Association in Australia is comprised of six "Constituent Bodies," representing the six Australian States. These "Constituent Bodies" are designated as the State Branches of the Australian Dental Association, e.g., Australian Dental Association (Victorian Branch). The State Branches are autonomous organizations and have jurisdiction over matters concerning the State. Through a Constitution of the Australian Dental Association, they are bound together and the parent organization functions somewhat like the Canadian Dental Association. Briefly, a few important differences are to be noted. The Australian Dental Association does not have a permanent headquarters or any permanent full time staff. The administrative headquarters "shall be situated either in Sydney or Melbourne, as the President may from time to time direct." With one exception, there are no regular standing committees as we know them. However, the Association may, at a General Meeting, appoint committees to deal with special matters. The one exception is the "Standards Committee," which serves in an advisory capacity with the Commonwealth Bureau of Dental Standards (dental

materials). This will be referred to again under a discussion of research. There is no official Australian Dental Association Journal. Two journals are published in Australia and are used by the various branches of the Association and the parent organization for transmission of scientific knowledge and the business of the Associations. One of the functions of the Australian Dental Association is to hold a Dental Congress at intervals, say once every two years. The place of meeting is set forth in the Constitution of the Australian Dental Association, as follows:

"A Congress to be known as The Congress of the Australian Dental Association shall be held in Sydney in the year 1950 and thereafter at such intervals of not more than three years as the Association in general meeting may from time to time determine in the following cities and in the following sequence, namely:—Brisbane, Melbourne, Adelaide, Sydney, Perth, Melbourne, Brisbane, Sydney, Adelaide, Melbourne, Perth, Sydney, such sequence to be repeated from time to time."

It was the Sydney Congress, August 21st to 24th, 1950, at which the writer represented the Canadian Dental Association.

TWELFTH AUSTRALIAN DENTAL CONGRESS

Only a few impressions and experiences can be recorded at this time. At the opening ceremony, a function made brilliant by the academic regalia of the official party and the presence of His Excellency, The Governor of New South Wales, Sir John Northcott, K.C.-M.G., C.B., M.V.O., and The Minister of Health for the Commonwealth of Australia, The Right Honourable Sir Earle Page; and the Vice-Chancellor of the University of Sydney, Professor S. H. Roberts; the President of the Australian Dental Association, Dr. W. Stanley Wilkinson, invested Dr. J. V. Hall Best (Vice-President of the A.D.A.) as the

President of Congress. After His Excellency opened the Twelfth Congress officially, messages of goodwill were delivered by representatives from the United States, New Zealand and Canada. The message presented by your representative during the opening ceremonies was as follows:

"Thank you, Mr. President, for affording me the opportunity of extending to you, your Executive, your Committees, and all the members of the A. D. A., official greetings from the dental profession in Canada.

"I can assure you that this is a very happy moment for me for several reasons.

"*First*, because the 4,500 members of the C.D.A. whom I represent today, adopted me some few years ago, and since that day my experience with them has been a happy 'adventure in friendship.'

"*Secondly*, I have the honour to represent the University of Toronto in my capacity as the Dean of one of its Faculties, a sister institution of this University, in whose halls we are meeting this week. It is significant, Mr. Vice-Chancellor, that graduates of the Dental Faculty of the U. at Sydney, have done much to develop the bonds of goodwill and mutual understanding between our two Universities.

"*Thirdly*, my pleasure in being present at this Congress is deepened because once again I am on my native soil. At this moment Scott's words surge up within me:

'Breathes there the man with soul so dead,

Who never to himself hath said,
This is my own, my native land.'

"The full impact of the sentiment expressed therein, can scarcely be fully appreciated until one has lived through the experience of returning to one's native soil after many years away.

"In coming to you as the representative of the dental profession in Canada, I am cognizant that Canada and Australia are a considerable distance apart geographically.

"However, one need only span that

gap by air to realize that our horizons are brought closer together by modern means of transportation. We can no longer assume that we can go our way independently of one another. The forces which influence the profession in one part of the world have their counterpart elsewhere, modified only by local circumstances.

"The opportunity to exchange ideas during a gathering of this nature is useful and indeed essential if we are to fulfil our obligations as a profession.

"The sincere wish of the Canadian Dental Association and myself personally is that this meeting is an unqualified success."

The success of the Congress was a great tribute to the genial President, John Hall Best, whose sparkling wit was always refreshing; to Mr. Robert M. Harris, the most efficient and obliging Secretary of the Congress, and to the other members of the Congress Commission. To an outsider who has attended many large Dental Conventions, the success of the Australian meeting was the more remarkable because of the lack of a single hotel, auditorium or suitable meeting place to house all phases of the Congress. In terms of the hotel accommodation in the heart of Sydney, the opening ceremonies were held in the Great Hall of the University of Sydney, approximately two miles from the hotel area; the Congress Luncheon after the official opening was held in the various dining halls of the University (approximately six) and on the basis of two sittings in each hall; the essays and lectures were scheduled in different lecture theatres in the University buildings (the University was on holiday); clinics in dental oral surgery were given in the several teaching hospitals about the University; the group clinics and table clinics were accommodated in the United Dental Hospital of Sydney (the Dental School) which is approximately one mile from the hotel area; the trade exhibits, public health exhibits and visual education program (films) were located in the Lower Town Hall of

Sydney, about one-half mile from the hotels; the President's Reception the first evening and the Congress Ball on the last evening were accommodated in one of Sydney's large social clubs, the Trocadero, located about one-half a mile from the hotels; while the Congress Headquarters and registration facilities were in one of the large hotels. It can be readily seen that many obstacles had to be contended with in arranging a meeting scattered in different parts of a large city. Transportation from hotels to the different phases of the program was greatly hampered by difficulty of getting a taxicab and some new one-way traffic regulations which went into effect in Sydney during the week of the Congress.

In spite of these difficulties approximately one-third of the 3,500 members of the dental profession in Australia and a large contingent from New Zealand were provided with an outstanding scientific and social program. The scientific highlights included a Plenary session on the subject, "The Cause and Prevention of Dental Caries," which brought together three outstanding Australian investigators. Mr. Robert Harris discussed "Aetiology and Clinical Aspects of Caries and its Treatment"; Dr. N. E. Goldsworthy was assigned "Bacteriological Problems of Dental Caries"; and Dr. C. D. Hearman presented "Nutritional Aspects of the Problem of Dental Caries." A large audience acclaimed this session as an outstanding success.

A series of clinics in dental oral surgery were televised in the Dental Hospital Theatre and projected before several small groups in other parts of the building. This forward looking experiment was well planned and a credit to those who had made the arrangements. Dr. William H. Terrell of California, was present and gave a series of comprehensive lectures and clinics in Prosthodontics. Every phase of dentistry was included in the program. The Visual Education section included many of the well-known films seen at Conventions on this continent.

The sports and social functions included tours to the Blue Mountains of New South Wales, cruises on the Harbour and tours of several of the Sydney beaches. Sports tournaments and matches were scheduled for golf, tennis and bowls. The numerous social events were enthusiastically acclaimed and typified Australian hospitality and the cordiality of the entire proceedings.

DENTAL RESEARCH

Two interesting items relating to research in Australia are worthy of note: *The Bureau of Dental Standards:*

The Department of Dental Materials in the Australian College of Dentistry of the University of Melbourne became very active some years ago under the leadership of Dean Arthur Amies and a dental graduate, Mr. H. K. Worner. The scope and importance of this department ultimately appeared to transcend a University Department and a request was made by Professor Amies in 1944 to reconstitute this department as a Commonwealth Bureau of Dental Standards, under the Director General of Health of the Commonwealth Government of Australia. In 1945 the Australian Dental Association was asked to support this suggestion and the President of the A.D.A. at that time, in furtherance of a motion passed at the annual meeting of the Association, stressed to the Director General of Health the necessity for the establishment of a Bureau of Dental Standards. Thus, when the Bureau was inaugurated in January, 1947, it had the financial support of the Commonwealth Government through a Grant from the Department of Health, amounting to £4,000 per annum, and the moral support of the Australian Dental Association which established the only regular standing Committee known as the "Standards Committee" of the A.D.A.

The Bureau has accommodation through an arrangement with the University of Melbourne on the campus of the University of Melbourne. They presently occupy six to eight rooms and during my visit there was ample evidence of expansion going on through

an addition now under construction. It would appear that the location of the Bureau will remain in Melbourne and closely affiliated with the University of Melbourne even though it will likely become more and more a Commonwealth Government institution.

The Staff of six to eight scientists is directed by Mr. A. R. Docking, M.Sc., following the appointment of Dr. Worner as Head of the University Department of Metallurgy. It is interesting to note that Professor Worner with his initial dental training has assumed this important responsibility in the general field of Metallurgy within the University.

From my observations, the Bureau has been excellently equipped with all the latest apparatus for Research in the field of Dental Metallurgy.

A survey of the Annual Reports published and of the publications which have emanated from the Commonwealth Bureau of Dental Standards indicates that the Dental profession will benefit greatly from the standardization of Dental Materials. Indeed, they have already laid down specifications for some Dental Materials similar to the specifications set forth by the Bureau of Standards in Washington.

It would, therefore, seem that future Research on Dental Materials will be centred in Melbourne.

The Institute of Dental Research:

The Institute of Dental Research of the United Dental Hospital of Sydney grew out of what was previously the Department of Pathology of the United Dental Hospital. This small department within the Dental Hospital was responsible for providing a limited service in routine Clinical Pathology. The present Director of the Institute, Dr. N. E. Goldsworthy, was appointed Director of the Department of Dental Pathology at the United Dental Hospital in July, 1946. At the outset, he believed that it would be expedient to reorganize the Department, so that it would be a separate unit with its own budget and organization, rather than

as a Department of Pathology within the Dental Hospital.

The Director, in accordance with this belief, submitted a proposal to the Hospital Commission entitled "Revised Proposals for an Institute of Dental Research." This Report presented in August, 1946, to the Chairman of the Hospital Commission by the President of the Dental Hospital, was supported by the Dean of the Faculty of Dentistry and Dr. Goldsworthy.

During August, 1946, the successful completion of negotiations between the Hospital Commission and the Board of the Dental Hospital resulted in a resolution by the Board of the Hospital as follows: "That there be founded the Institute of Dental Research in accordance with the proposals presented to the Board and to the Hospital Commission." The Commission was notified of this Resolution, and late in August replied that it was agreeable to the foundation of the Institute and to its name; further it had agreed to make a Grant to the Institute.

This action abolished the Hospital's Department of Pathology, Bacteriology, and Biochemistry. In addition, with the establishment of the Institute, the Staff, accommodation, equipment and supplies were transferred from the old to the new Institute. Actually, they remained in the same quarters in the Dental Hospital that they had occupied previously. Thus, during the first year, the Institute included departments of:

1. Pathological Anatomy and Histopathology.
2. Bacteriology and Immunology.
3. Biochemistry and Clinical Pathology.

While their present accommodation is very limited and might be described as shockingly inadequate, the completion of the present elaborate building program for the Dental Hospital will provide the Institute of Dental Research with the entire seventh floor of the building amounting to 40 rooms. An elaborate Staff plan has been prepared and at the present time comprises nine full-time people and three part-time.

The Research Institute is financed today, according to my conversations with the Director, through the following sources:

1. A direct Grant from the Hospital Commission. (Amount unstated.)
2. From the Dental Hospital which pays for routine examinations of pathological and biochemical specimens.
3. A small Grant from the Dental Board of the State of New South Wales.

4. Such applications for Grants-in-aid for specified projects directed by individuals; in this case, the Director of the Institute. These Grants-in-aid come from the Medical Research Council.

Other aspects of dentistry which engaged the study of the writer during this brief but intensive visit, included the subjects of "Dental Licensure in Australia and New Zealand," and "Dental Education and Health Programs." These cannot be reported on at this time.

October 31, 1950.

ANNOUNCEMENTS

UNIVERSITY OF TORONTO, FACULTY OF DENTISTRY

Continuation Courses For Graduates in Dentistry

OPERATIVE DENTISTRY, FEB., 19-23

This course will include discussion of the philosophy of operative dentistry, oral diagnosis, treatment planning, rubber dam and local anaesthesia for operative procedures, a study of dental materials, cavity preparation and insertion of amalgam, silicate, inlays, occlusion and periodontal considerations as related to operative dentistry, mutilated anterior teeth in young and adult patients.

Dr. Carl Miller, from Cleveland, and Dr. Louis Schultz, Professor of Operative Dentistry, of University of Michigan, will be the guest clinicians in this course.

This course will be under the general direction of Dr. P. G. Anderson, Head, Department of Operative Dentistry. Tuition Fee \$75.00; Enrolment Limit 10.

ENDODONTICS, MARCH 12-16

This course is designed for the general practitioner who wishes to provide efficient and economic endodontic service for his patients. Dr. J. Henry Kaiser, Professor of Dentistry, Ohio State University, has accepted an invitation to be the guest lecturer and clinician.

This course will be under the general direction of Dr. George C. Hare. Tuition Fee \$75.00. Enrolment Limit 8.

DENTAL RADIOLOGY, APRIL 2-6

This course will be devoted to the study of radiographic techniques and interpretation. Commonly used types of intraoral and extraoral techniques will be demonstrated. Interpretation will be correlated with the pathology and histopathology of dental diseases.

Dr. James P. Coupland of Ottawa, will be the guest lecturer and clinician.

This course will be under the general direction of Drs. H. M. Worth and J. E. Moser. Tuition Fee \$75.00; Enrolment Limit 12.

ADVANCED NOTICE OF REMAINING COURSES FOR THE 1950-51 SESSION

Orthodontics (for the general practitioner), April 9-13; Paedodontics, April 16 and 17; Dental Oral Surgery and Anaesthesia, April 23-27; Periodontics, April 30 - May 4.

Please address inquiries to: The Dean, Faculty of Dentistry, University of Toronto, 230 College St., Toronto 2-B, Ontario.

The term "profession" may be regarded as an honorary title awarded informally by society to occupations conforming to certain standards. These standards may be roughly outlined as follows: (1) the occupation must require high skill and intellectual effort and an extended educational preparation, both intensive and comprehensive in nature; (2) the occupation must involve primarily the exchange of service or advice for a fee or salary, rather than the sale of material products for profit; and (3) the occupation must have achieved in public opinion traditions of group dignity, intellectual superiority, self-control, and resistance to unscrupulous commercialism.—John E. Gurley.

The Original Application of a Common Household Convenience to the Problem of Absorbing Shock in Partial Denture Service

by VICTOR HENRY JEKYLL, D.D.S., London, England

THE interruption of the impact of those forces which characterize mastication between the saddle and the anchorage of a partial denture has been for long the purpose of all serious workers. The weakness of our service to this special class of patients weighs altogether too heavily on our consciences and much ingenuity and endeavour have produced innumerable solutions to this well established problem. Clasp design and fabrication have been modified to afford the common answer to this need and where skill, time and expense beyond the usual are possible a form of stress breaker is employed. Our difficulty is not, however, unique. It is indeed something ordinarily encountered in every department of industry involving the operation of moving parts. One of the principal cares of the industrial engineer in modern construction is the disposition of undersirable vibration and the absorption of impact or shock. Such achievement has attended their efforts that shock absorbers are now of the simplest possible form and in evidence even in the commonest piece of household equipment.

From a complicated system of springs and mechanical contrivances comparable to the ingenious, though intricate, stress breakers in dentistry, industry has given its response to what had become an universal demand. In your refrigerator, radio, washing machine, typewriter, motor car, etc. have you observed how vibration and shock are reduced and frequently eliminated. Yes, pads of one of our commonest and cheapest materials accomplishes this purpose with ease and efficiency. The principle is simply the interposition between the

components of any machine of a certain amount of something resilient, ordinarily, a piece of rubber or plastic selected for the permanence and perfection of its elasticity. The application of this discovery to our daily life contributes successfully for us a measure of comfort, ease, efficiency and well-being. All of these are desirable and should be possible as well in dentistry. To translate them, however, in a simple device of this nature into advantages in the narrow confines of dentistry is far from easy. What follows is a description of how I have harnessed successfully to my work this household convenience.

As it is intended by this method of shock absorption to overcome the objectionable features of cast complexity and stagnation commonly characteristic of its predecessors, the stress breakers, it will be welcome news that this new method involves practically no serious departure from that usually followed in any laboratory constructing a partial denture.

Three slight variations are, however, desirable. (1) Splay out the free ends of the clasps, fish-tailwise; (2) Establish an extra millimeter clearance between the ridge and the underneath of the tails of the clasps; (3) Terminate the clasp tails where they connect to the body of the clasps proper in small circular buttons or discs.

Observing these simple requirements it is necessary now merely to immerse the tails up to the body of the clasps in a thin solution of a suitable resin or plastic, regulate the coating to a thickness that is reasonable, warm the whole slightly for a few moments, preferably in an oven, finish the cases in the usual manner and

you have produced a denture with shock absorption attachments. While the use of a surveyor is always to be recommended, it will be found however to the satisfaction of those who are indifferent as to its use, that the degree of resilience secured by this means, reduces the rigidity of the clasp attachment and materially facilitates the insertion of the denture.

It is appreciated that further elaboration on this subject is desirable and essential, but as I promised our editor a short original contribution to the C.D.A. Journal to mark this particular visit of mine to Canada and celebrate my 25th anniversary in dentistry, the essential details of my technique must await a later opportunity for their description.

ANNOUNCEMENTS

GRADUATE AND POSTGRADUATE COURSES, UNIVERSITY OF MONTREAL.

SUBJECTS	DATES	DURATION	ENROLMENT
Oral Surgery & Anesthesia	Feb. 5,6,13,14 & 15,	5 days	10
	March 5,6,13,14 & 15	5 days	10
	April 23 to 28	1 week	12
Endodontics	May 8,15 and 22	3 days	6
Orthodontics	June 25 to 30, Dr. Jos. E. Johnson and staff	1 week	30
Prosthetics	Feb. 5 to 10	1 week	5
	March 5 to 10	1 week	5
Pedodontics	Jan. 23,24,25 & 26	4 days	8
	April 10,11,12,13	4 days	8
Diagnosis	Feb. 5 to 10	5 days	15
	March 12 to 17	5 days	15
Periodontics	Feb. 5 to 9	5 days	8

THE ANNUAL CONVENTION OF THE MARITIME DENTAL ASSOCIATIONS under the auspices of the Dental Association of Prince Edward Island, will be held at The Charlottetown Hotel, June 27-29, 1951, Charlottetown, P.E.I.

NORTHWESTERN UNIVERSITY ANNOUNCES ITS CENTENNIAL IN 1951. As part of the celebration, the Dental School will present an outstanding program at its Homecoming, June 4-8. The alumni school will offer intensive two-day courses in several popular subjects to be followed by two days of scientific essays, practical clinics, and technical exhibits. A university conference representing the biological field will present distinguished speakers discussing "Problems of an Aging Population."

THE DISTRICT OF COLUMBIA DENTAL SOCIETY'S 19TH ANNUAL POST-GRADUATE CLINIC will be held March 11-14, at the Shoreham Hotel, Washington, D.C.

There will be nationally known clinicians and essayists, speakers of wide renown, exhibitors showing the latest and newest products, registered clinics, table clinics, visual education, important scientific sessions, and fine social entertainment.

Seventy-three years ago Benjamin Disraeli, speaking at Battersea Park, said that "the health of the people is really the foundation upon which all their happiness and all their powers as a State depend."

An Examination of the Fluoride Content of Teeth from Some Ontario Districts¹

By SHIRLEY R. HARNESS² and M. DOREEN SMITH³

INTRODUCTION

THE relationship between fluorides and dental caries continues to hold interest since it is still not fully understood. Although it is well established that fluorides in the drinking water offer a protection against caries, the mechanism by which the element exerts its action is unknown. Does the fluoride ion in the oral fluids inhibit acid-producing microorganisms or is the action produced by incorporating the element into the tooth structure, and if so, how significant is the percentage of fluoride in the teeth? Because of this questionable situation the amount of fluoride in teeth from high and low fluoride areas and from carious and non-carious teeth is of interest.

Previous to 1933, enamel, dentine and whole teeth had been reported to contain anywhere from 0.0 per cent to 1.4 per cent of fluorides. Since 1933 the accuracy of fluoride analysis has been increased, although the methods still leave something to be desired. Armstrong and Brekhuis¹, Hoogland², Martin³ and McClure⁴ have all reported on the fluoride content of teeth from various centres. However, the quantity of data relative to dental tissues is still somewhat limited and some analyses from Canadian districts should be of value.

PROCEDURE

Because of the possible connection of the fluoride content of teeth with resistance to dental caries, fluoride analyses were made on teeth extracted from individuals living in the Ontario centres of Kitchener (low fluoride

area) and Stratford (moderate fluoride area). These centres were chosen in an effort to correlate the work with a study⁵ previously made in this department of the fluoride content of water and milk from the two communities. Whole teeth from two other areas have also been analyzed and the results included for general interest. These areas are Ripley, Ontario, reported as high fluoride by Box and Hodgins⁶ and the Falkland Islands about whose water supply no information was available.

Fluoride analyses have also been made of the separated enamel and dentine fractions of teeth extracted from Brantford children. This was done as a part of the survey which Dr. H. K. Brown, Chief of the Dental Health Division, Ottawa, is carrying out.

All determinations were made by the method of Willard and Winter⁷, using modifications of the Association of Official Agricultural Chemists⁸. Individual teeth were first cleaned and all carious material removed. The teeth were then dried for forty-eight hours at 100°C and pulverized to approximately 20 mesh size when the determination⁸ was to be made on whole teeth. Where a separation was made into enamel and dentine fractions the teeth were ground to 60 mesh size, using a Wiley—F.R.I. Micro Model Laboratory Mill. The separation of the fractions was accomplished by the method of Manly and Hodge⁹.

The actual analytical procedure involves ashing the ground teeth with a fluoride fixative since some organic material is present, distillation from perchloric acid and a back titration

1. Contribution from the Food Chemistry Department, University of Toronto, Toronto, Ont., assisted by a grant-in-aid from the Associate Committee on Dental Research of the National Research Council of Canada.

2. Research Assistant, Food Chemistry Department.

3. Associate Professor of Food Chemistry.

with thorium nitrate and potassium fluosilicate. Magnesium acetate was employed as the fluoride fixative¹⁰. Potassium fluosilicate, prepared and tested for purity in the laboratories of the United States Food and Drug Administration was used as the primary fluoride standard. The apparatus used in the distillation was constructed with ground glass joints and a special distilling head. All precautions were taken to maintain a minimum distilling blank, including the use of platinum dishes when ashing.

RESULTS AND DISCUSSION

In this survey a tooth with either cavities or fillings was designated carious and the degree of caries roughly estimated. It should be noted that an unfilled cavity could indicate either past or present caries activity while a filling is a record of previous caries experience. Thus it is possible that fluoride may have been acquired by the carious tooth when caries was no longer active. McClure⁴ has pointed out that a comparison of sound and carious teeth which is made between different individuals for fluoride differences will likely introduce errors due to variation in the individual's fluoride exposure. On examining Tables I, II,

and III, it is not surprising that no significant difference in fluoride content between sound and carious teeth is noted.

In Tables I and II a correlation between the fluoride content of the drinking water and the percentage fluoride found in the teeth is apparent. Although not enough results have been obtained for statistical analysis, in general the Stratford teeth have a higher fluoride content than Kitchener teeth. It is interesting to note here that these results are in line with the findings of the study by Ham and Smith⁵. Analysis of the communal water supplies of Kitchener and Stratford indicated that the former is in a low fluoride district and the latter a higher one. Milk from the two areas was also analyzed in their study and although low in fluoride content the samples obtained from the higher fluoride area appeared to contain significantly more fluoride than those from the low fluoride area.

Tables I and II also show a gradual increase in fluoride content of permanent teeth with age and exposure to dietary fluorides. The lowest values recorded are for deciduous teeth and a third molar which had not erupted. Tooth No. 16 (Stratford), had the highest value of any of the Stratford or

FLUORINE CONTENT OF WHOLE TEETH

TABLE I

Kitchener District—Water 0.16 p.p.m. Fluoride

No.	Age	Tooth Analyzed	Degree of Caries	Per cent Fluoride
1	10	deciduous second molar U.R.	severe	0.0075
2	14	permanent first bicuspid	none, but showed hyperplasia	0.013(9)
3	15	permanent second molar	moderate	0.0083
4	19	permanent second molar L.L.	moderate	0.0082
5	21	permanent third molar	none, tooth not erupted	0.0075
6	25	permanent first molar L.R.	moderate	0.024(7)
7	33	permanent second molar L.R.	severe	0.020(5)
8	39	permanent second molar	slight	0.033(1)
9	42	pooled sample of two lower central incisors	none	0.023(2)

TABLE II
Stratford District—Water 1.29 p.p.m. Fluoride

No.	Age	Tooth Analyzed	Degree of Caries	Per cent Fluoride
10	11	deciduous second molar L.R., crown only	slight	0.013(2)
11	7½	permanent first molar U.R.	showed slight decalcification	0.031(4)
12	18	permanent first molar	severe, but tooth showed mottling	0.054(6)
13	22	permanent second molar	slight	0.029(4)
14	42	pooled sample of 2 permanent bicuspid	none	0.039(8)
15*	42	permanent second bicuspid	none	0.049(2)
16*	42	permanent lower central incisor	none	0.057(0)

*Teeth No. 15 and 16 are from the same individual.

TABLE III

No.	Age	District	Tooth Analyzed	Degree of Caries	Per cent Fluoride
17	child, age unknown	Ripley Ont.	deciduous molar, crown only	none	0.012(0)
18	15	Ripley Ont.	permanent molar	moderate caries; exhibits slight mottling as did other teeth of patient	0.71(4)
19	—	Falkland Islands	permanent upper central incisors; pooled sample of two teeth	none	0.052(9)
20	—	Falkland Islands	permanent upper central incisors; two teeth	moderate	0.050(2)

Kitchener teeth analyzed and was from a 42 year old patient. Tooth No. 12 (Stratford), had a value almost as high although it was from a much younger subject. This tooth showed slight mottling of the enamel which has been associated with a high fluoride content. Tooth No. 18 (Ripley) had the highest fluoride content of those teeth examined. Although the tooth was carious, it exhibited mottling as did all of the teeth in the patient's mouth.

The values obtained in Table III for the Falkland Islands' teeth seem rather high since the teeth did not show any signs of mottling. However, Restarski⁴ has obtained elevated fluoride values in a group of Samoan natives whose

teeth he analyzed. The Samoans have an unusually low caries index. Although no data was available about the fluoride content of the Falkland Islands' water supply, a parallel may perhaps be drawn with another South Atlantic island, Tristan da Cunha. The inhabitants of Tristan da Cunha have borderline dental fluorosis and reduced dental caries although the fluoride in their drinking water is not appreciable. This fact is explained by Sognnaes¹² by attributing it to consumption of marine fish which have a high fluoride content.

The results obtained when the separated enamel and dentine fractions of teeth from Brantford children were analyzed are shown in Table IV.

TABLE IV
Fluoride in Enamel and Dentine of Brantford Teeth

No.	Age	Tooth Analyzed	Degree of Caries	Enamel % Fluoride	Dentine % Fluoride	Ratio of Dentine to Enamel
DECIDUOUS						
21	5	molar, lower	none	.022(2)	.020(2)	0.9
22	6	molar, lower	severe	.0067	.0093	1.4
23	6	pooled sample of two second molars	moderate	.010(2)	.018(8)	1.8
24	7	pooled sample of two cuspids	none	.0018	.0046	2.6
25	7	pooled sample of two lower first molars	severe	.012(4)	.018(1)	1.5
26	9	molar, crown only	moderate	.0085	.012(0)	1.4
27	10	lower second molar	severe	.013(5)	.0096	0.7
28	10	molar	none	.015(4)	.014(3)	0.9
29	12	upper and lower second molars	moderate	.0075	.010(2)	1.4
PERMANENT						
30	10	lower first molar	moderate	.032(4)	.035(0)	1.1
31	12	first molar U.R.	severe	.0049	.011(6)	2.4
32	12	upper first bicuspid	none	.0078	.010(5)	1.3
33	12	lower bicuspid	none	.0074	.022(8)	3.1
34*	13	lower first molar	severe	.0032	.016(7)	5.2
35*	13	upper first molar	severe	.0062	.012(4)	2.0
36	15	upper first molar	severe	.0029	.011(4)	3.9
37	15	upper first molar	severe	.0036	.013(6)	3.8
38	17	lower first bicuspid	severe	.012(3)	.022(1)	1.8

*Teeth No. 22 and 23 are from the same individual as are teeth No. 34 and 35.

Although large groups of teeth have not been examined, the ratio of fluoride in dentine to fluoride in enamel has a mean of 1.4 for deciduous teeth and a mean of 2.7 for permanent teeth. (If the high value of 5.2 is not taken into account, the mean is 2.4 for permanent teeth.) McClure⁴ refers to the relatively consistent ratio of fluoride in dentine to fluoride in enamel. His analyses on over 500 teeth indicate that dentine seems to contain about 2.0 to 2.5 times as much fluoride as enamel. He points out that this relatively consistent ratio would not be obtained in carious teeth if as the data of Armstrong and Brekhus¹ indicates, there is less fluoride in the enamel but not in the dentine of carious teeth. Table IV

shows that the proportion of fluoride in dentine is greater in permanent teeth than in deciduous ones.

CONCLUSIONS

Teeth from a low fluoride area in general have a lower fluoride content than those from a moderate fluoride area. Differences in results for sound and carious teeth were not apparent.

Analysis of permanent teeth showed a gradual increase in fluoride content with age and exposure to dietary fluorides.

The ratio of fluoride in dentine to fluoride in enamel as determined by analyzing the separated fractions was 1.4 for deciduous teeth and 2.7 for permanent teeth.

ACKNOWLEDGEMENT

The authors wish to express their appreciation to the dentists of Stratford and Kitchener, and to Dr. H. K. Brown, Chief of the Dental Health Division, Ottawa, who assisted in the collection of samples; and to Dean R. G. Ellis of the Faculty of Dentistry, University of Toronto, who placed the facilities of the Faculty at our disposal and Dr. P. G. Anderson of the same Faculty who helped prepare the teeth for analysis.

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Conclusions

Les gens, qui vivent dans des régions où les fluorures des eaux sont peu abondants, ont, en général, des dents d'une teneur de fluorure plus basse que celle des gens de régions où les fluorures sont en quantité moyenne. Toutefois, il est impossible d'y voir des conséquences dans l'état plus ou moins carié des dents.

Une analyse des dents permanentes a montré une progression constante dans la teneur de fluorure avec l'avancement en âge et au contact de fluorures dans la nourriture.

La proportion des fluorures dans la dentine comparée avec celle de l'émail, telle qu'indiquée par l'analyse des frottis divisés, était de 1.4 pour les dents temporaires et de 2.7 pour les permanentes.

The very first thing for a man to realize is that the world does not owe him a living. It owes him nothing except for value received. And his first business in the world is to do something to help the world along, and only in this way can he justify his existence and have a decent excuse for consuming food and oxygen.

Dr. Frank Crane

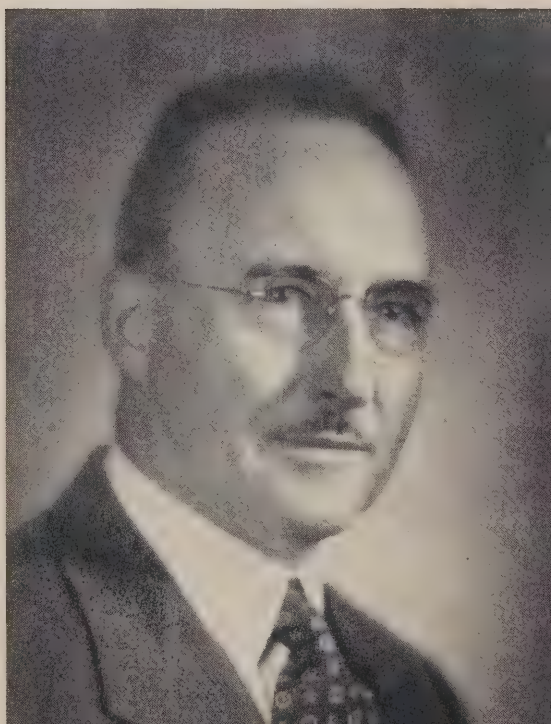
In the midst of his Herculean labours as Britain's Prime Minister in World War I. David Lloyd George was asked, "How do you manage to keep fit under all this work and worry?"

To which the revolute little Welshman replied, "Oh, with me, a change in trouble is as good as a vacation."—Adrian Anderson.



The convention chairman, Dr. W. H. Pritchard and his committee are busily engaged in preparing the details of the annual convention of the Canadian Dental Association. This year it is being held in cooperation with the Eastern Ontario Dental Association which celebrates its 75th anniversary.

The Convention will be held at the Chateau Laurier Hotel in Ottawa, September 23, 24, 25 and 26. A National Convention in our National Capital!



The Forum

ORAL MANIFESTATIONS DURING THE FEMALE CLIMACTERIC

by MAURY MASSLER, D.D.S., M.S. and JOSEPH HENRY, D.D.S., M.S.

Condensed from *Alpha Omegan*, Sept. 1950

The term climacteric is now generally accepted to denote the loss of fertility in women and includes all the signs and symptoms accompanying this phenomenon. The climacteric is a natural process which occurs in all women. It is accompanied by distinct and characteristic (1) physical changes, (2) emotional upsets, and (3) mental disturbances. These changes may be mild and almost unnoticed or they may be severe and debilitating.

Although oral symptoms occur frequently during the climacteric, no specific reference to the oral manifestations was found in the medical literature.

Data were collected on 86 women who, on a basis of general symptomatology, were experiencing some stage of the climacteric. The oral symptoms can be summarized as follows:

1. Burning in the mouth was noted frequently. This occurred usually on the side, tip and base of the tongue, the buccal surfaces, and near the pillars of the fauces.

2. Abnormal taste sensations (usually salty, peppery, and sour taste) was a frequent complaint. The patient did not enjoy her meals and consequently did not eat regularly or ate a poorly balanced diet. Malnutrition was the result.

3. Gross changes in the tongue similar to changes seen in Vitamin B complex deficiency could be observed clinically in most cases.

4. Most of the patients had a definite cancerophobia. There was a high

incidence of reddened mucous membranes and a diffuse, painful, burning sensation among these patients.

5. Chronic canker sores were seen especially before or after menstruation in patients experiencing the early climacteric. For some reason, these canker sores healed slowly so that they were often mis-diagnosed as pemphigus.

6. Some cases showed a chronic desquamative gingivitis involving the tongue, buccal mucous membrane, or gingiva.

A significant number of these patients (52 out of 86) were referred to the dental clinic by dentists because the patient could not wear a prosthetic appliance which had been constructed for her. In some cases, the appliance had been remade two or three times. In every case, the mechanical fit of the appliance was considered to be very good.

A number of the patients (34) were referred to the dental clinic by physicians for consultation concerning vague oral complaints and for treatment of chronic recurrent herpetic lesions. The majority of these cases improved after routine estrogen and vitamin therapy by the physician. In a few cases, the lesions could be shown to occur on an allergic basis.

A woman experiencing the climacteric is too often regarded as a psychiatric problem whose symptoms are imaginary. Nothing could be farther from the truth! Her symptoms are real; and they are based upon ana-

tomic and metabolic changes occurring at the time. Too often, a woman experiencing the climacteric is bandied from one physician to another, and then from one dentist to another. A female experiencing the climacteric may wear her dentures in her pocket-book. She complains of burning sensations caused by the dentures, sore spots, or abnormal taste sensations. The denture is a failure—not because of mechanical failure—but because the tissues are deficient and not able to withstand normal stresses. Dentures made during this period often “don’t fit” and the patient is labelled a “crank.” However, there are anatomic and physiologic bases for her complaints. When the dentist fails to recognize this fact, his prostheses may fail, and he may be faced with lawsuits

for “poor dental services.”

It cannot be over-emphasized that the dentist must recognize that he is treating a patient experiencing the climacteric. She may be irritable, hysterical, emotionally unstable, depressed, nervous, fault-finding, talkative, easily excited, or demanding. The dentist should make sure that the oral tissues (and the patient) are normal and healthy before attempting a prosthetic restoration. Proper management of this patient and cooperation with a competent gynecologist will lead not only to successful restoration of the mouth—but to a successfully treated patient. Oral medicine and psychosomatics are too often given only “lip-service.” In this instance, the problem is real and can be successfully solved by the competent dentist.

CHANGE IN EMPHASIS NEEDED

Editorial in Jour. of Periodontology, July, 1950.

To the objective observer, unhampered by the narcosis of custom, the American dental scene presents an inexplicable paradox. The paradox is highlighted by an inconsistency between the nature of the dental problem of the population, the teaching program designed to prepare dentists to cope with this problem, and the treatment planning of most dentists. On the one hand, the observer learns that beginning with the fourth decade of life, periodontal disease is the greatest single cause of tooth loss. In addition, because of a steadily increasing life expectancy, each year finds a large proportion of the population at an age level at which tooth loss is more likely to result from periodontal disease than caries. On the other hand, he finds the following regarding the teaching of periodontology.

- (a) It occupies only 2.10% of the time of the entire dental curriculum.
- (b) The time allotted to dental materials exceeds that devoted to periodontology.
- (c) Prosthodontia and operative dentistry combined receive 22.1 times

the attention given to periodontology.

- (d) In evaluation of the quality of clinical teaching periodontology rated 11th on a list of 16 clinical subjects, inferior to dental ethics but on the same plane as jurisprudence.

Prosthodontia, oral surgery, and operative dentistry occupy the first, second, and fifth positions respectively in this quality evaluation.

- (e) In a total of 38 schools, the teaching of periodontology is rated as follows: excellent and good—10; fair and poor—28. The clinical teaching of prosthodontia is rated: excellent and good—30; fair and poor—8. Oral surgery: excellent and good—23; fair and poor—15; operative dentistry: excellent and good—19; fair and poor—19.

If the observer were not previously conditioned by an appreciation of the comprehensive objectives of present-day dental education, he might arrive at the following erroneous conclusions from the aforementioned facts:

- (a) That dentists are somewhat oblivious to the existence of periodontal disease.
- (b) That dentists are more concerned with repairing and replacing teeth than the prevention of their loss.
- (c) That dentists do not realize that the more expertly the ravages of dental caries are repaired, the more teeth will be present in people when they reach the so-called "periodontal susceptible age."

The significance of periodontal disease as one of two major causes of tooth loss and the important rôle of periodontology in dentistry should be clarified for the dental student at the

outset of his career in the dental school. He should be made aware of the fact that his obligations as a dentist will not be essentially confined to filling and replacing teeth." It should be made clear to him that because of the prevalence of periodontal disease, care of the supporting tissues is part of "bread and butter" dentistry which he should expect to manage in his practice with the same ease and confidence as filling a tooth or taking an impression. He should be made to understand that his obligation to acquire proficiency in the periodontal field is just as much a prerequisite for graduation as the other major clinical requirements in the curriculum.

SUDDEN BLANCHING OF THE CHEEK

by DAVID L. GRAITCER, D.D.S.

Jour. of Oral Surg., April 1950.

The sudden blanching of the cheek in the infraorbital region at the time a tuberosity injection is made is due to direct injection of the anaesthetic solution into the internal maxillary artery or one of its branches. The anaesthetic solution containing epinephrine is immediately carried to the skin capillaries by way of the infraorbital artery. The vasoconstriction, caused by the epinephrine in the arterioles, causes immediate blanching of the skin supplied by this vessel. This is a transitory phenomenon passing away

in ten to fifteen minutes and probably not of great significance. This accident, however, should be avoided. The danger of injecting into arteries or veins in this region can be minimized by the use of a curved needle. The ordinary injection needle may be curved by passing it through a sterile gauze sponge held between the fingers, stroking the needle toward the bevel of the tip. A one-eighth circle curve on a needle will assure the passage of the tip of the needle close to the bony tuberosity, thus avoiding penetration of a vessel.

OF DEFLUXIONS FALLING ON THE GUMS, AND THE TOOTH-ACHE ARISING THEREFROM

Submitted by H. A. HUNTER, D.D.S., Faculty of Dentistry, Univ. of Toronto, from recent bibliographical searches.

The common method also of giving acrid, aromatic substances to be chewed, such as ginger, galangal, Florentine orris root, cloves, allspice, mace, camphor, orange peel, peppermint leaves, caraway seeds, and many other stimulating applications, in various forms, is often productive of very dangerous consequences, notwithstanding the discharge which they occasion,

The true rational method of cure is comprehended under four general indications.

1. To lessen the velocity, quantity, and inflammatory disposition of the blood.
2. To relax the affected parts by topical applications, and sometimes by scarifications.
3. To make a revulsion by means of

irritation, and by discharge from a neighbouring part.

4. And lastly, to lessen the sensibility of the pained parts by the use of external and internal sedatives.

The first indication is answered by bleeding and purging, and frequent repetitions of nitrous draughts.

The second, by keeping the mouth constantly moistened with emollient liquors, such as decoction of marsh-mallows, comfrey, or satirion roots, or of columbine, or quince seeds, with a little nitre; by applying poultices of bread and milk to the affected cheek externally and boiled or roasted figs internally and also by scarification of the gums, but this last should only be practised when the inflammation is very violent, and where the obstruc-

tion has lasted so long as to leave no hope of resolution.

The third indication is most effectually answered by the use of blisters applied to the ears and nape of the neck, some are fond of sternutatories and leeches, but I think to little purpose.

For the last intention, opium is to be added pretty freely to the above mentioned emollient liquors, and given in due doses at night to procure rest.

This much it is the duty of a surgeon dentist to tell the patient, in general terms, to prevent his falling into ignorant or dishonest hands.

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AUREOMYCIN

Report of Clinical Use in 90 Cases of Bacterial Infection in the Oral Cavity

by L. RICHARD CIPES, Ph.G., D.D.S., New York, N.Y.

Summary of paper in N.Y. State D. Jour., Oct., 1950.

Within a period of 5 months a total of 90 patients presenting a variety of dental infections were treated with aureomycin hydrochloride in the form of surgical pastes, suspensions and troches.

Best results with aureomycin therapy in periodontoclasia were obtained when the medication was used as an adjuvant following surgical procedures. In 2 root canal cases presenting large rarefied areas and marked sup-puration, aureomycin failed to arrest

the presence of exudates. In the 45 cases of post-extraction infection, 5 cases failed to respond. However, they responded favourably to sulphanilamide-penicillin therapy.

There were some side reactions with aureomycin therapy, but none of a serious nature. The findings indicate that aureomycin hydrochloride is a patent antibacterial agent useful in treating infected root canals and in the management of suppurative periodontal lesions, infected post-extraction areas and Vincent's infection.

BIFURCATION INVOLVEMENT IN PERIODONTAL DISEASE

by IRVING GLICKMAN, D.M.D., Boston

From paper in Jour. of A.D.A. May 1950.

In the detection and diagnosis of bifurcation involvement, the roentgenogram is described as a useful aid, subject to the following qualifying limitations: the bifurcation may actually be involved microscopically without presenting any roentgenographic

changes: in advanced bifurcation involvement, microscopic changes of potential clinical significance may escape detection by roentgenogram. Variations of roentgenographic technique may completely obscure destruction in the bifurcation area,

As a general rule, whenever marked bone loss is observed roentgenographically in relation to a single molar root, it may be assumed that the bifurcation is also involved.

The same principles which govern the treatment of periodontoclasia in general are applicable to the management of teeth with bifurcation involvement. Choice of local treatment is largely a matter of preference. It is the opinion of the author that some attempt should be made to visualize all aspects of the bifurcation area, both to afford definite information regarding the extent of involvement and

to facilitate unhampered accessibility. Any one of a number of modifications of the surgical or gingivectomy technique lend themselves readily to the treatment of bifurcation involvement. Adjunct local measures such as occlusal adjustment, correction of food impaction areas, stabilization by prosthesis and physical therapy by the patient should be employed in accordance with individual requirements. Postoperative sensitivity to thermal changes may be alleviated by using sodium fluoride paste (equal mixture by weight of sodium fluoride, kaolin and glycerin.)

THE PATIENT WITH ANGINA PECTORIS

Q.—Is the patient with a history of angina pectoris a safe risk for routine oral surgery?

A.—The dangers of precipitating attacks of angina pectoris under the stresses of minor oral surgery are great. These patients must be put at ease, premedicated with appropriate barbiturates, and the local anaesthetic used should be without vasoconstrictor content. Using conductive anaesthesia

the operation should be planned not to exceed ten minutes. Longer periods of operation are unsatisfactory since there is no maintenance of the local anaesthesia. Common emergency agents should be at hand for reducing blood pressure and alleviating angina attacks. Inhalation of amyl nitrate or holding a 1/100 grain tablet of nitroglycerin under the tongue are commonly employed for this use.—*Jour. of Oral Surg.*

HYGROSCOPIC EXPANSION OF SOME CASTING INVESTMENTS

by N. LANDGREN, D.D.S., M.S., and F. A. PEYTON, D.Sc. School of Dentistry, University of Michigan, Ann Arbor, Mich.

Summary of paper in Jour. of D. Research. August, 1950.

1. Hygroscopic expansion decreases with the increased time between mixing and immersion when immersion is made after initial set.

2. When the investment is immersed after initial set, the temperature of the water bath affects the expansion slightly. Higher temperature of the bath gives increased expansion.

3. When the investment is immersed before initial set, the greatest expansion is obtained and the results are most uniform.

4. There is a slight increase of the expansion when two asbestos linings are used instead of one.

5. Hygroscopic expansion of some

investments is not great enough for full compensation of the gold shrinkage.

6. The expansion of some investments is more readily modified than others by differences in water-powder ratio and temperature of the water bath.

7. The casting investment designed for hygroscopic expansion technique gives more uniform results than those primarily designed for thermal expansion.

8. The method of choice in hygroscopic expansion technique is to immerse the specimen 2 to 12 minutes after mixing and keep the specimen in water at 37°C for 50 minutes.



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Editorial

GOOD MEN IN DENTISTRY

President R. P. Lowery and Secretary Don W. Gullett of the Canadian Dental Association completed a tour through Western Canada in November. Following this I received a letter from one of the leading dentists in Victoria, B.C., stating that Dr. Lowery's address on Dentistry was the most inspirational to which he had ever listened. An outstanding statement in this address was to the effect that what we need in Dentistry today is "*More Good Men.*"

It was this same thought that prompted the editorial entitled "Success in Dentistry" which appeared in the November issue of this Journal. In that article the question was raised as to whether or not more might be done in the efficient selection of the freshmen classes in our dental schools. Aptitude tests were mentioned, also interest and personality tests, but that integrity of character stood first.

Dr. Willard C. Rapplege, Dean of the College of Physicians and Surgeons of Columbia University says that "Future physicians should be selected more on the basis of character and personality than on grades, that pre-medical education should be abolished, that college education for the medical profession is not pre-anything but should provide students with a broad cultural background. He states further that *medical or dental practice is not a private enterprise alone, but a public responsibility.* Dr. Arthur Merritt of New York City points out in commenting on the above in the New York Journal of Dentistry that "Dentistry is not so much in need of greater technical excellence as it is of a broader educational and cultural background."

He states that while aptitude tests are important that above and beyond these the candidate seeking admission to our dental schools should be chosen not because he has satisfied the pre-dental educational requirements, but rather on the basis of character and personality.

We are proud of our heritage and we must guard our high standards in every way possible. Dean Stanley Bagnall of the Faculty of Dentistry, Dalhousie University, has done me the honour of perusing most carefully my November editorial and his comments appear in the "Correspondence Section" following this article. The Dean is most concerned, as are many of us, in enlisting and developing the young man who will make a contribution to dentistry. The letter assumes that I am rather keen on aptitude tests, which is correct. However, by aptitude tests I do not refer particularly to the carving of plaster figures or the bending of wire figures, etc., but rather to personality and character tests, and especially the necessity of checking very carefully the past history of the applicant from a character standpoint. Dean Bagnall thinks I place far too much emphasis on the college, but I doubt if it is possible to place too much importance on these institutions, for who else can check on these problems if the college fails to do so.

The Dean states that there is a possibility that the psychologist could be of some help but doubts if he can see very far ahead in many cases. This brings me to a personal experience which bears on this statement. While attending the high school in Hamilton, Ontario, I consulted a psychologist who, having studied the requirements for many professions and businesses, advised me of several enterprises in which, in his opinion, I might engage successfully. Dentistry headed the list. Up to that time this profession had never entered my head as a possibility, so I feel very indebted to that psychologist, for I love Dentistry, even though some may say that it is too bad I did not enter some other field of endeavour. I thoroughly believe that this approach has much of merit and should be employed more frequently in selecting students for the freshman class.

The Council on Dental Education of the American Dental Association has published a booklet entitled "Dental Aptitude Testing Program." This booklet points out that it is most important to the prospective dental students, as well as to the dental profession and the dental schools, that the utmost care be exercised in the selection of the freshman dental students, that the men selected will prove to be an asset to the profession upon graduation. It is further stated that if the dental schools are to render the greatest possible service to the public and to the nation, they must admit students who possess the scholastic and technical aptitude necessary to succeed in the dental school, and it might be added, succeed in practice following graduation. To accomplish this the above Council has developed test scores in order to predict the success or failure of a student in dental school. Forty-one dental schools in the U. S. A. have elected to cooperate in a nationwide Dental Aptitude Testing Program to be conducted by the Council on Dental Education of the American Dental Association. It is stated,

and rightly so, that the aptitude test scores in themselves will never be the sole criterion upon which an applicant will be selected for admission to a dental school, but that the student's previous college work, letters of recommendation, reports of committees that may have interviewed the applicant and various other data will be considered.

While I for one can only look with favour upon aptitude tests of this nature, it must be remembered, as before stated, that these tests are quite secondary to the enquiring into character if we are to secure "*Good Men for Dentistry*." A man may head the list in aptitude tests and be nothing but an educated crook and eventually bring disgrace upon himself and the profession of his choice.

If I were a Dean of a Dental School I would begin with a careful selection of my own staff. Dental students pass through a period of apprenticeship under the leadership of their teachers. They are influenced greatly by the charm, magnetism and ideals of the men who have been chosen to give that leadership, so too much care cannot be exercised in the choice of a staff.

A college professor is continually casting pebbles into the lake, and too often without realizing the extent to which the wavelets caused by the pebbles will circle and travel. The sum of those circles results in a wave of influence which will be felt far and wide. I would suggest placing the following motto by John Greenleaf Whittier on the library wall of every college professor:

"Be noble, and the nobleness that lies
In other men, sleeping, but never dead,
Will rise in majesty to meet thine own."

However, I hasten to say that this is no reflection upon the wonderful group of men who make up our college staffs, for the men holding such positions whom I know particularly well are men of highest character and above reproach.

Success in Dentistry is not the ability to increase one's income at the expense of the patient, not "How much can I get" but "How much can I give." Better service comes first, and this ideal will only be found in "Good men." Character and personality are what count, and an attractive personality backed by true character is within the making of everyone. Personality is of great importance in every walk of life. It should be studied with a view of making it an asset instead of a liability. It may be either.

God give us "*Good Men in Dentistry*," men with character, men with ideals, and techniques will look after themselves. How true the words of Carl Schurtz! "Ideals are like stars, you cannot touch them with your hands, but, like the seafaring man on the desert of waters you choose them as your guide, and following them you arrive at your destiny."

Also the words of Emerson:—"The truest test of civilization is not the census, nor the size of the cities, nor the crops, no, but the kind of men the country turns out," and so it is with Dentistry, what counts is what kind of men our colleges turn out.

In the November 11 issue of the *British Medical Journal* the editor sums up the problem of medical education in this way, and it is as applicable to Dentistry as to Medicine:—"To arguments about medical education there is no end. But in the long run what is taught matters less than those who learn and those who teach. It may be a counsel of perfection, but there should be no difficulty in training good doctors if the same care was taken to select students as the Admiralty takes to select naval officers and if all teaching was given—in schools, universities, and hospitals—by those who could inspire as well as instruct."

M.H.G.

CORRESPONDENCE

THE SELECTION OF DENTAL STUDENTS

To the Editor,—

I have read your last editorial entitled "Success in Dentistry" over several times and have found it very interesting. I think that perhaps the best proof of my interest is that I agree with you in some things and disagree with you in others. If one writes or states something which contains only platitudes we do not advance knowledge and it is not until points of opinion differ that we can get ahead and help to solve these problems by attempting to recognize the different viewpoints.

I have the feeling that you are rather keen on aptitude tests. I hasten to say they have a very definite place in our society but feel we have been going at this thing backwards. Just what are we trying to find out by these aptitude tests? My experience has been that they are designed, quite frequently, to find the capacity of a man to accumulate and use new facts. That is good as far as it goes. The other and more emphasized facet seems to me to have been often based on an attempt to assess a man's technical or manual skill. I think we should first decide what are the qualifications for a good and respected dentist. Then hand these over to an expert in such matters and see what he can set up in the way of a test. I am not sure that even if this were done we would be satisfied with the result. I know this sort of thing has been tried out a great deal on the high school level and, from some of the reports I hear, the results can be tragic. The great driving force in life is interest. A school boy makes up his mind that he is going in for a certain type of study. The aptitude test shows, rightly or wrongly, that he is not suited for that particular method of earning his living.

If the aptitude test agrees with the boy's ambitions, what has been accomplished? If, on the other hand, the aptitude test says he is not fitted for this somebody is taking a heavy responsibility on his shoulders. The particular enthusiasm of that boy has been killed at an age when disappointments of any kind exert a deep effect. If they keep the square peg from the round hole and no serious psychological shake-up is involved, then we may have salvaged a good future citizen. It is not a responsibility to be attacked lightly in any sort of a rule of thumb manner.

You speak of the possibility of selecting students for the freshman year who are endowed with the essential attributes which make for success. I agree heartily with the ideal expressed here. I wish that I could be sure, even in a reasonable number of cases, that I was making a right selection. This type of approach may have the same fallacies as the old adage which went something like this "as the twig is bent so the bough grows." That might be true in a simple world but so often something happens to interfere. It is the same with students. We pick a bright boy with a good record, good personality and we expect him to live up to his start. I admit he is a better bet but it does not always work out. I have too often seen the young chap who doesn't stand up so well in the initial interview but he drives along, shows continued improvement and often ends up the better man. I have been long enough in the teaching game to see quite a few boys start in as young, green students pass through their college years and go out into practice. We have often discussed these boys as they go through school and, like the class prophets, try to assess where they will stand in their community ten or twenty years later.

Sometimes we have been right and just as often very wrong. So much is going to depend on factors which arise after the student graduates. It may be in his home or the type of community and practice in which he settles. The average man will be pulled up if he becomes associated with a good group. The above average man may revert if he finds himself located in the wrong atmosphere.

I think you are putting far too much emphasis on the college. I say this quite feelingly because as I talk to these new groups of boys as they start in, one gains certain impressions but the question is, are these correct? We have been carrying out a rather interesting experiment over quite a few years. We do all we can to develop these boys as they pass through school to set the ideals of good work and good citizenship as members of our profession. It is hard to tell how far we get but I do feel that we have made very definite and very tangible progress in the group which we tie in as members of our staff after they graduate. We have tried, in recent years, with some measure of success to direct the young graduate as to the type of community for which he is best fitted.

We can only handle the material which we get and even with today's larger group of applicants for selection, it is not always possible to choose the best men. We have felt in recent years that we are now getting a much better average group. The veterans have been a great help. They have brought to their work a matured outlook and are a great contrast to the so often very immature young boy who drifts in from high school.

There is the possibility that the psychologist could be of some help but I doubt if he can see very far ahead in many cases. I could literally fill pages with case histories of young chaps whom we got to know intimately in their college days, and then observed their after life. A few of these broke down under the strain of modern living, whom I think anybody would have assessed as thoroughly normal and balanced in their school days.

You have dealt with a problem in which we are very much interested. My secretary, who is writing this, and I have been associated together for a great many years. The group of

students has always been small and we have got to know them very well and I think that we have had an opportunity in this respect which is probably rather unique.

You have the material for several editorials on the subject which you have opened up and I hope you will carry it further, and let us not follow the United States too closely in their devotion to aptitude tests started backwards. Let us try to evolve some better plan of our own.

(Signed) J. Stanley Bagnall,
Dean, Faculty of Dentistry,
Dalhousie University.

FEDERATION DENTAIRE INTERNATIONALE

To the Editor:—

I have recently made a survey of dental practitioners who are members of the Federation Dentaire Internationale throughout the world in order that I might send them literature concerning the International Dental Congress which will be held in London, July 19-26, 1952. These investigations have caused disappointment in that there are so few Canadians members.

It is my personal belief that the world today stands in great need of clear thinking men possessing an international outlook who from time to time meet together to exchange not only their professional ideas and theories but at the same time can learn to appreciate each other's difficulties and problems in other spheres. It is for these reasons among others that I hope Canada will be well represented at this Congress.

I shall be only too happy to forward literature regarding the Congress which is now being published to any members of the Canadian Dental Association who will forward their names to me, particularly my class mates of '34. Enquiries regarding membership of the F.D.I. itself can be obtained from—Dr. Don W. Gullett, 211 Huron Street, Toronto, Ont. November 8, 1950

Signed: — C. de Vere Green, F.D.S.R.C.S.
(Eng), D.D.S. (Toronto)

"Most promotions are won outside the eight-hour workday."

BOOK REVIEWS

Bibliography on Caries Research by J.

Stanley Bagnall, Dean, Faculty of Dentistry, Dalhousie University. 557 pp. Cloth. Price \$10. Prepared for and issued by the Associate Committee on Dental Research National Council, Ottawa, Canada.

This large volume contains a thorough review of the literature on caries from 1890 to 1949, collected under 15 main divisions and 130 subdivisions, and a bibliography of 2300 books and articles. Many of these publications have been mentioned because they were referred to by authors whose reports are abstracted and discussed in the review sections. Some 1500 other papers which were examined are not listed in the bibliography because they contained merely expressions of opinion, or duplicated information summarized from more authentic sources. This is an invaluable reference work for students of caries.

Owing to the high cost of publication the present edition has been limited to 200 copies and complimentary distribution has been restricted to a minimum.

Remittances should be made by Bank, Express, or Post Office Money Order, or an Accepted Cheque made payable at par in Ottawa to the Receiver General of Canada for the credit of the National Research Council of Canada. Orders should be addressed to: The National Research Council, Ottawa, Canada.

Principles of Orthodontics by J. A. Salzmann, D.D.S., F.A.P.H.A., associate attending dentist and Head of Orthodontics at Mt. Sinai Hospital, New York; formerly head of the Dental Service at the New York City Vocational Schools; Associate Editor of the American Journal of Orthodontics; Editor of the New York Journal of Dentistry. Second edition. 887 pages with 533 illustrations including some coloured figures and a number of charts. Published by J. B. Lippincott Company, 2083 Guy Street, Montreal. Price \$16.50.

This is an excellent book. It is a worthwhile review for the orthodontist and even more valuable to the general practitioner of dentistry who desires an understanding concept of the present day approach to problems in dento-facial abnormalities. The author

presents the various basic studies on which modern Orthodontics has leaned so heavily for its progress. Indeed there is much information available to the enquiring reader which is highly desirable for the intelligent practice of dentistry for children and young people.

The book opens with a chapter on Orthodontics and Public Health. This is followed by a discussion of "Orthodontics and Prophylactic Orthodontics". Such factors as prevention of dental caries, restoration of carious teeth, appraisal of development processes in growth, controlling the loss of deciduous teeth and the employment of aid to promote and maintain normal occlusion—all are related to Orthodontics. From these fundamentals the author leads his reader in orderly fashion to consider chapters on "Growth and Development", "Physiology of the Face and Jaws", "Development of the Dentition" and "Ontogenetic Development of the Occlusion of the Teeth"; all are basic and refreshing studies. Then there are chapters reviewing and summarizing the respective influence of the endocrines and nutrition on normal growth and abnormalities. Following this there is a discussion of aetiologic factors in dento-facial abnormalities—a term which the author uses rather than malocclusion.

In the last half of the book the author deals more specifically with Orthodontics—classification, diagnosis, treatment planning, treatment and retention. This portion is probably more important to the specialist but it is also of general interest to any dentist.

This is a book very much needed in every dentist's library. It has a wealth of worth while information.

T. R. M.

Endodontia — The Clinical Pathology and Treatment of the Dental Pulp and Pulpless Teeth by Edgar D. Coolidge, B.S., M.S., D.D.S., L.L.D. (Hon. Loyola); Emeritus Professor of Therapeutics, Preventive Dentistry and Oral Hygiene, Chicago College of Dental Surgery, School of Dentistry, Loyola University, Chicago. 355 Illustrations in 179 Figures and a coloured plate. Published by The Macmillan Company of Canada. Price \$7.20.

Endodontia has become one of the important branches of health service and as a

result much progress has been made in this field in the desire to save the natural teeth from extraction.

The author points out that by the newer methods of bacterial control and improved technique in the practice of pulp and root-canal treatment, the dental pulp can be safely removed and most pulpless teeth can be treated successfully. It is also pointed out that the introduction of the sulphonamides and antibiotic agents has added materially in shortening the time required to obtain sterility in infected root canals.

The following subjects are dealt with:—

"Therapeutic Principles"; "Dental Pain"; "Treatment of Dentine and the Dental Pulp"; "Anatomy of Root Canals"; "Treatment of Infected Pulp"; "Sulphonamides and Antibiotics"; "Filling Root Canals"; "Healing and Repair"; "Root Resection"; "Focal Infection"; and the subject of the last chapter is "Pulpless Teeth".

This text is the outgrowth of practical experience, research and teaching of many years by one who has an international reputation as a sound scientist and should be read by all those who practise "Endodontia".

M. H. G.

ROYAL CANADIAN DENTAL CORPS NEWS

1. Authority has been granted to form the fifth Active Force Dental Company to be designated 15 Company R.C.D.C. (A.F.) with Headquarters in Montreal, Quebec Command, effective November 11, 1950. Dental treatment will be given to Service Personnel in the Province of Quebec and Goose Bay, Labrador.

2. Majors I. A. L. Millar and T. L. Marsh recently presented clinics on "The Application of Antiseptics and Antibiotics" at the Eastern Ontario Dental Asso-

ciation Meeting, Ottawa, and at the Academy of Dentistry Winter Clinic, Toronto.

3. Lt.-Col. G. B. Shillington attended a Dental Public Health Conference at the University of Toronto, Nov. 16-18, also a course held at the Army Medical Centre, Washington, D.C., from Nov. 27 to Dec. 1.

4. Capt. T. M. Walker attended a course at the University of Toronto on Periodontia, Sept. 25-29.

CANADIAN DENTAL ASSOCIATION NEWS

FROM THE OFFICE OF THE SECRETARY

Announcement re Library Trust Fund:

The establishment of the new headquarters building for the Canadian Dental Association brings to the fore other necessities of a scientific body. One of the prime requirements for recognition as a scientific professional organization is a library. Space has been allotted in the new headquarters for this purpose. From the small nucleus of a library now possessed by the Association, it is hoped eventually to develop useful and efficient library facilities.

To this end application was made to the Department of National Revenue for the recognition of the Library Trust Fund so that amounts contributed to the Fund would be entitled to tax relief under The Income Tax Act. Reply has been received stating that the request is granted. Donors to this fund will be issued with properly marked receipts which may be attached to the income tax return of the donor for deduction purposes.

It will be noted by the Deed of Trust establishing The Library Trust Fund

which follows that Doctor T. Howard Graham of Toronto has consented to act as Trustee of this fund together with the President and Secretary. Doctor Graham has been associated with many projects for the good of the profession and it is anticipated that his interest and energy will be instrumental in the development of a library of merit.

Deed of Trust Establishing Library Trust Fund—

THIS DEED OF TRUST is made this 4th day of October, A.D. 1950, by Canadian Dental Association, L'Association Dentaire Canadienne, a company incorporated by special Act of the Parliament of Canada (hereinafter called the "Association").

WHEREAS the Board of Governors and members of the Association are desirous that a library shall be established and maintained for the benefit of the dental profession and for the information and benefit of members of the public who are interested in the history and practice of dentistry;

AND WHEREAS the Association has approved of the establishment and maintenance of such a library and has received and will receive sums of money, books, periodicals and other items from its members and others as voluntary contributions to be devoted to that purpose;

AND WHEREAS the Association is desirous of establishing such a library and of declaring the trusts on which moneys received and to be received shall be held and administered;

NOW THIS DEED WITNESSETH as follows:

1. The Association declares that all sums received and which may hereafter be received for the purpose of establishing and maintaining a library shall be held in a trust fund to be known as The Library Trust Fund.

2. The Library Trust Fund shall be administered by a Board of Trustees consisting of the President of the Board of Governors of the Association, the Secretary-Treasurer of the Association, and one other individual to be appointed from time to time by the Board of Governors of the Association who need not be a member of the Association nor engaged in the practice of dentistry.

3. The Library Trust Fund shall be invested and re-invested in such securities as are authorized by law from time to time for the investment of funds of Canadian and British Insurance Companies.

4. The Library Trust Fund and the income thereof shall be used by the Trustees—

(a) to acquire a library of books, periodicals, slides, plates, charts, models and similar items of interest to dentists and others who may be desirous of acquainting themselves with the history and practice of dentistry;

(b) to provide suitable premises and shelves, display cases and equipment

therein to properly house, secure and display items acquired on behalf of the library;

(c) to be applied toward the remuneration of a librarian and such other persons as in the opinion of the Trustees are necessary for the maintenance and security of the library.

5. The Trustees shall make regulations regarding the use of the library and shall take such action as they may consider helpful or advisable to acquaint the dental profession and members of the public with the nature and content of the library and purposes which it is intended to serve.

6. The Trustees shall prepare annually a report to be submitted to the Association with respect to the Library Trust Fund, the contents of the library and the use which has been made of it.

IN WITNESS WHEREOF the Association has caused its corporate seal to be affixed, attested by the hands of two members of its Board of Governors in that behalf the day and year first above written.

SIGNED, SEALED
AND DELIVERED
in the presence of
OLIVE A. FISK
INEZ HARPER

CANADIAN
DENTAL ASSO-
CIATION, by:
G. VERNON FISK
H. W. REID

The undersigned hereby consent to accept the Deed of Trust of the Library Trust Fund of the Canadian Dental Association dated the 4th day of October, A.D. 1950.

WITNESS our hands and seals at Toronto this 4th day of October, 1950.

ELAINE WOOD
HELEN W. Mc-
LENNAN
SHIRLEY V. SMY-
LIE

T. H. GRAHAM
R. P. LOWERY
DON W. GUL-
LETT

NEWS FROM THE PROVINCES

MANITOBA

The second of the Winter Program meetings of the **Winnipeg Dental Society** was held with a large crowd on November 20. The first meeting with the sweeping condemnation of Self-Setting Synthetic Resin Filling Materials was almost a heart breaker but hearts have a habit of healing if given time and most of the broken hearted after due consideration are again using Kadon and other self-setters of like nature but with this difference, they are now following the instructions accompanying the material and not trying any short cuts. Short cuts too fre-

quently lead us into a quagmire with unhappy results.

The clinician for November 20 was the well known Dr. Paul Edmand of Chicago. Dr. Edmand is a member of the A.D.A., Illinois State and Chicago Dental Societies and a Fellow of the International College of Dentists as well as being a member of the Pierre Fauchard Academy and the Federation Dentaire Internationale. He is a practising dentist in Chicago and has his own theories of how to enhance the longevity of the natural teeth by minimizing degenerative changes in the alveolar support. He illustrated his lecture with drawings and

slides showing his procedure for occlusal reconstruction and a movie film showing cases successfully treated. In these days of preventive measures relating to dental caries Dr. Edmand's prevention methods fill a place for adults who have the financial means and reminds us of the lectures of several decades ago when it was believed that a "Clean Tooth never Decays." And that was the sum total of prevention.

Dr. Joseph Rumberg, President of the Society, presided with his customary grace and ability. The next meeting of the Society will be on Monday, January 15, with Dr. Maury Massler, also of Chicago, as the lecturer. Dr. Massler is a well known paedodontist and among other duties is Director of the Child Research Clinic at the University of Illinois College of Dentistry. J. F. M.

The Northwest Manitoba Dental Association held a meeting at Neepawa November 8 at which Dr. J. Purdy of Brandon was elected President and Dr. Harwood of Brandon, Secretary.

The meeting was well attended by delegates from Dauphin, Brandon, Portage, Minnedosa, Hamiota and Neepawa. Dr. Robertson of Dauphin presided.

Study A Club of the Winnipeg Dental Society conducted the clinic. The following Winnipeg dentists attended: Drs. K. M. Johnson, McCord, McKenzie, Riley, Toombs, Bird, Miles, Elsey, Robb, McLeod and Grahame.

In a Recent Survey made by Dr. W. E. Campbell when Director of the Dental Section of the Department of Health and Welfare for Manitoba, it was found that the average dentist in the province is 48 years of age. With very few exceptions he is married and has 1.7 children. Two-thirds are graduates from Toronto, with Alberta, Minnesota and Chicago next in the number of graduates.

The survey indicated that about 30% of the profession had attended some post graduate course since the war, and nearly all thought such courses should be made available.

Thirteen patients a day was the average, but this figure was not considered very accurate as a number did not reply to this question.

Nearly all laboratory work is done in the commercial laboratories.

ONTARIO

The Dental Faculty at Toronto has published a summary of scholarships and awards available annually to students of the Faculty. There are a total of 32 awards with a total cash value of \$2600

together with 3 keys and 4 medals. There is one award in pre-dental year, two in first dental year, five in the second year, four in the third year, sixteen in the final year and four open to students of all years.

Essex County Dental Association is a thriving dental group and no doubt this is due in no small measure to a very energetic secretary—Dr. Ted. Wachna. Keep going Ted. During the autumn months there have been two regular meetings. Dr. Sydney Woollatt and Dean R. G. Ellis from Toronto were the respective speakers. Both meetings were well attended.

The Faculty of Dentistry, University of Toronto, was represented at the Greater New York Dental meeting in December by Dr. J. H. Johnson, Professor of Dental Oral Surgery and Anaesthesia; Dr. S. A. MacGregor, Assistant Professor of Paedodontics and Dr. J. M. Sheldon, Associate Professor of Operative Dentistry. All three took part in the program of the meeting.

Extra Mural Lectures given by members of the Faculty of Dentistry during December were:

Dr. H. M. Worth at London Dental Society on December 2.

Dr. C. H. M. Williams at Niagara Peninsula Society in Niagara Falls on December 8.

Dr. W. D. P. Cavanagh at Ottawa Dental Society on December 11.

The Faculty of Dentistry, Toronto, has made public registration figures for the session 1950-51. The pre-dental class members that give home address as Greater Toronto are 24; Ottawa and Sault Ste. Marie are 3 each; Kirkland Lake, Niagara Falls and St. Catharines are 2 each; and one each from Amherstburg, Breslau, Buttonville, Cobourg, Cornwall, Dundas, Fort William, Hamilton, Mount Dennis, Oshawa, Parry Sound, Port Credit, Roseland, Sarnia, Schumacher, St. Thomas, Stratford, Sturgeon Falls, Sudbury, Wellington and Windsor. Further figures on the registration of all students enrolled in dentistry reveal a total of 440 with a provincial distribution as follows: from Ontario 386, Nova Scotia 1, New Brunswick 1, Prince Edward Island 1, Quebec 1, Manitoba 15, Saskatchewan 17, Alberta 2 and British Columbia 16.

The Ottawa Dental Society held its first meeting of the 1950-1951 season on November 13, in the Chateau Laurier Hotel.

Major I. A. L. Miller, R.C.D.C., was the guest speaker of the evening and gave a very interesting lecture on the subject "Haemostatic Acids in Oral Surgery."

Col. C. B. Climo, R.C.D.C., introduced Major Miller and he was thanked by Dr. Harold Beach.

The Executive for the coming year was announced as follows:—President—Dr. A. C. Stinson; Vice-Pres.—Dr. W. L. Barnabe; Sec.-Treasurer — Dr. C. E. Woods; Councillors—Drs. H. N. Beach, O. E. Brunet, J. C. Cummings, M. M. Derrick, J. F. French, J. A. Gauthier, J. C. Tanton, and W. A. Wolfe.

At a meeting of **Grey-Bruce-Dufferin Dental Society** held in Owen Sound, November 15, Dr. A. W. S. Wood of the Faculty of Dentistry, Univ. of Toronto, spoke on "Some Everyday Problems in Paedodontics."

Dr. J. A. McArthur of Markdale presided and members were present from Kincardine, Port Elgin, Walkerton, Chesley, Markdale, Shelburne, Collingwood, Thornburg and Owen Sound.

Ontario is soon to have a second traveling dental clinic to provide dental services to remote communities served by the Canadian National Railways.

The clinic is to be set up in a railway coach and will be completely self-sufficient with its own heating and power unit, space for the examination and treatment of patients and living quarters for the staff. A \$17,000 federal health grant has been authorized to meet the costs of the project.

The Canadian National Railways have agreed to provide a coach, to maintain it and move it from place to place. The federal grant will meet the cost of converting the coach into a clinic, furnishing the staff quarters, providing the heating and power plant, buying dental equipment and supplies, and paying the salaries of the dentist and his assistant.

The 1950 Bonspiel of the Ontario Dentists' Curling Association was held at Kitchener Waterloo Granite Club on Wednesday, December 6. Twenty rinks entered the competition and played the full schedule of three games. Rinks came from Bracebridge, Midland, Orillia, Orangeville, Brampton, Toronto, Hamilton, Brantford, Guelph, Galt, Welland, Kitchener, Walkerton, London, Peterborough and Lindsay.

The winning rink and winner of the Charles McKenna trophy, was skipped by Dr. G. V. Morton, with Dr. Syd. Woollatt as vice, Dr. Harry Banfield second and Dr. Bruce Jones lead. The runners-up

were last's winners from Hamilton, skipped by Dr. C. T. Mason with Dr. C. T. Moyle vice, Dr. D. E. Shultis second and Dr. John Carroll lead. Other prize winners were rinks from Welland skipped by Dr. R. F. Rogers and from Galt skipped by Dr. H. Caulfield. Every game was a contest. Close scores, the plus in a single game of thirty minutes played being (SEVEN), might be some kind of record.

The day and evening were most thoroughly enjoyed by all present. Curling was excellent, the ice perfect and the arrangements for the reception, comfort and entertainment of the visiting dentists ideal. Dr. J. A. Spellman of Kitchener earned the gratitude of all, for his most excellent handling of all local activities in connection with the Spiel and dinner, and not one detail was omitted. The Waterloo and District Dental Society, its President Dr. Jack Ledger and his executive, through their courtesy and kindness earned and received the thanks of the curling dentists present. Dr. Roy Winn, absent attending the Royal College of Dental Surgeons meeting in Toronto, sent his good wishes and a tangible proof of his interest.

The newly elected Board of the Royal College of Dental Surgeons of Ontario are:

District 1:

Dr. Murray Purcell, Pembroke.

District 2:

Dr. S. J. Phillips, Oshawa.

District 3:

Dr. M. V. J. Keenan, Sudbury.

District 4:

Dr. H. W. Reid, Toronto.

District 5:

Dr. Clarence Beebe, Owen Sound.

District 6:

Dr. F. J. Furlong, Windsor.

District 7:

Dr. Roy Winn, Kitchener.

District 8:

Dr. W. J. McEwen, Hamilton.

Representative of the faculty of Dentistry, University of Toronto: R. J. Godfrey and Secretary-Registrar Dr. D. W. Gullett.

The London Dental Society held its first regular fall meeting on December 2, at the Hotel London. Dr. D. C. Stiles succeeded Dr. T. D. McColl as President with Dr. J. A. Milne as Treasurer, Dr. Harold Dickson, St. Thomas, as secretary and Dr. Bruce Taylor as Press Representative.

A record number of 70 Dentists from London and district were present to hear Dr. R. M. Worth of Wellesley Hospital, Toronto, and the Faculty of Dentistry, University of Toronto, speak on "Interpretation of Dental Radiographs." The

illustrated lecture was most thoroughly presented and well received.

The next regular meeting will be held on January 20, 1951, at Hotel London when Dr. P. M. Kyprie of Detroit will speak on Gold Inlays and Bridgework. All London and District Dentists are urged to attend this meeting.

Other clinicians to be heard later are Dr. Emmett Beckley of Kansas City, Missouri, on Tuesday February 13 speaking on Immediate Dentures and Dr. L. J. Fenech of Windsor in March speaking on Endodontia.

Dental Nurses' Alumnae Association of Canada were entertained by the Bell Telephone Company of Canada at their November meeting when films "Telephone Courtesy" and "High over the Border" were shown.

There was a marked increase in registration at the Winter Clinic at the Royal York Hotel on November 23. It was inspiring to see the whole body of student dental nurses attend with their supervisor, Miss Welda Leask. Miss Adrienne Rands presided over the afternoon session and was assisted by Miss Bernice Baldwin as Winter Clinic Convener. Speakers included Dr. G. Nikiforuk, Dr. J. Moser and Mr. J. Price. A film was shown by the Dentists' Supply Company of New York. In the evening table clinics were presented by Miss Dorothy Wright, Miss Terry Fafard and Miss Isla Grainger.

QUEBEC

"A Short Course in Oral Pathology" was the subject presented by Dr. A. G. Racey to the members of **The Montreal Dental Club** at its November meeting held in the R.C.A.M.C.-R.C.D.C. Mess.

Dr. Racey discussed the evolution and development of the enamel organ to show how enamel dystrophies, supernumerary teeth, fusion, macro-dentism, micro-dentism and various hypoplasias may develop. With this as a basis, he proceeded to review, step by step, the caries process.

The aetiology is divided into two factors: the Predisposing, and the Exciting. The Predisposing factors consist of (1) the Constitutional—including the embryonic diet and hereditary factors; and (2) the Local—including anatomical factors, oral hygiene and the saliva. The Exciting factors are divided into (1) the acid production—*lactobacillus acidophilus*, acid strep., carbohydrates, plaque formation with lactic acid being produced under a plaque; and (2) the action of the protein-dissolving enzyme, which dissolves the protein in the enamel and dentine.

The actual caries process in the enamel is carried out by either the proteolysis of the organic material in the lamellae, or by the dissolving of the enamel cementing substance to the dentino-enamel junction, or by both. Once the organisms have reached the dentino-enamel junction, fatty degeneration of the dentinal fibres occurs followed by a sclerosis of the area; invasion of this area next occurs followed by lateral spreading and beading. This process continues until the pulp is reached. Before the pulp is involved, even as the dentino-enamel junction is reached by the caries, stimulation of the dentinal fibres stimulates the formation of adventitious dentine within the pulp as a protective measure.

Dr. Racey then proceeded to discuss the various stages of pulpitis which was covered in detail at a previous presentation and reviewed in the Quebec Provincial News of the May 1950 issue of *The Journal of the C.D.A.* With regard to the subperiosteal abscess, however, he stressed that this was the most dangerous condition; acute pain, malaise, etc., are present and on no account should poultices be used. The patient must be treated systemically until the submucous abscess appears when it may be treated accordingly.

Dr. Racey, who is Assoc. Prof. of Oral Pathology at McGill University, and Professeur Agrégé de Pathologie Buccale at the Université de Montréal, was aided by his assistants at McGill University, Drs. R. Edmison and L. Gill, who reported on the work being undertaken by their department.

Following an interesting question period, the speaker was admirably thanked by Dr. Dan MacDonald.

During the business part of the meeting, the President, Dr. S. A. MacSween, extended the congratulations of the club to two of its members, Drs. Ken Carver and A. Gerald Racey, upon becoming Fellows of the American College of Dentistry, at the last meeting of the A.D.A.

At the same meeting, the following dentists were elected to membership in the M.D.C.; Drs. P. A. Lefebvre, S. E. Kehoe, R. M. MacAllister, R. P. Ryan, and E. R. Ambrose.

Dr. MacSween also extended the congratulations of the club to Dr. W. A. McDonagh upon his appointment as Director of Dental Health Services in Windsor, Ontario. Dr. McDonagh only recently received his diploma in Dental Public Health from the University of Toronto.

"Trends in Pulp Capping" was the subject discussed by Professor J. Arthur Renaud, D.D.S., Université de Montréal,

at the November meeting of **The Montreal Endodontia Society.**

Prof. Renaud reviewed at length the work of Glass and Zander in the treatment of exposed pulps comparing the effects of zinc oxide and eugenol with those obtained by capping with calcium hydroxide; a marked difference is observed histologically.

Twenty-four hours following the capping of an exposure with zinc oxide and eugenol, there is evident immediately below the exposure a marked inflammatory reaction with haemorrhage into the coronal portion of the pulp. For a period of up to eight weeks, a gradually increasing zone of chronic inflammation is evident, even though there may be no clinical evidence present of this condition. The pulp has not healed, although the original site of the exposure may be walled off by chronic inflammatory cells. The coronal pulp tissue below is mildly infiltrated by lymphocytes and polymorphonuclear leucocytes, and the remainder of the pulp may be essentially normal.

"In sharp contrast is a 24-hour exposure capped with calcium hydroxide. There is no haemorrhagic mass and but few inflammatory cells. However, the superficial portion of the pulp that was in contact with the calcium hydroxide is necrotic; there is little or no cellular detail present. This necrotic area is demarcated from healthy pulp tissue below by a new deeply staining zone. This zone is comprised of basophilic elements that are probably made up of a calcium proteinate. Calcium hydroxide being basic, with a pH around 11, necrotizes the superficial tissue; the location of the proteinate globules probably represents the depth of penetration of the calcium hydroxide, which finally reacts with the tissue protein to form this new structure." Within two weeks this proteinate zone is walled off by an area of coarse fibrous tissue against which can be seen new odontoblasts; the pulp tissue below this is free from inflammation. Two weeks later new dentine has been deposited against the fibrous structures, being continuous with the walls of the pulp chamber. The tissue below is normal. The pulp has healed. We now possess, therefore, stated Prof. Renaud, undeniable proof of pulp healing through calcification, (i.e., through the closing of the pulp opening), on children from 9 to 15 years of age.

Prof. Renaud also reported on the work of Dr. Kutscher of New York, on the use of Penicillin Sodium Capping: Dr. Kutscher states that "under the conditions of this research, healed and successfully treated teeth could not be extracted for histologic examination. In no case was any toxic reaction to penicillin manifested locally or elsewhere."

Prof. Renaud discussed the use of a Sulpha called Septoplix for pulp capping with which he has experimented for two years, treating 200 cases. He did not desire to classify the method as "either excellent or bad," the principal reason being that "histological proof has not yet been produced, which would be the only way to confirm definitely the absolute healing of the pulp wound." The technique consists of mixing the sulpha drug with equal parts of distilled water, so as to make a paste, which is applied directly over the pulp exposure, then pressed lightly with a dry cotton ball. This facilitates its expansion and absorbs the moisture appearing at the surface. The cavity is then filled with zinc oxide and eugenol. In carrying out this experiment, Prof. Renaud stated that there had been no discrimination with regard to age in selecting patients.

Prof. Renaud was introduced by the president, Dr. L. Rosen, and following an interesting question period, was thanked by Dr. M. Archambault. The meeting was held in the Université de Montréal.

Three full day sessions devoted to Periodontoclasia are being presented by D. P. Mowry, Dean, Faculty of Dentistry, McGill University, during the months of November and December to the members of **The Mount Royal Dental Society.** A full report on this presentation will be covered in the February issue of *The Journal*.

The Montreal Dental Nurses' and Assistants' Association held its 16th Annual Convention of 1950 in conjunction with the 26th Annual Fall Clinic of The Montreal Dental Club at the Mount Royal Hotel. Officers elected were: President, Pat Doyle; Vice-President, Ernie Derick; 2nd Vice-President, Mildred Rosenberg; Treasurer, Sally Riddiford; Secretary, Kay Wolthausen; Archivist, Annie Ratner; Editor, Mildred Rosenberg; Program, Marion Lennox; Social and Reception, Marjorie Bonnard and Joan Grier; Convention, Dora Good and Madeline Jeffrey; Publicity, June Baker and Mildred Starr; Membership, Lorna Haines.

PRINCE EDWARD ISLAND

During the fall the **Division of Dental Public Health** under the direction of Dr. B. J. O'Meara, assisted by three dental hygienists have been conducting a **survey** in a number of schools in various parts of the province. A cross section of dental conditions and needs will be learned. The picture will not likely be good because an educational program has been lacking for a long time and also, many children are not able to receive periodic attention due to the fact that they live a long way

from the dental office. Often a child from the country can only be brought to the dentist on days that are unfit for working outdoors. The result is the dentist is booked ahead and the child has to return home with instructions to come back at a later date. The outcome will likely be that each dentist will have to undertake more children's work or the department will be forced to establish clinics in outlying places. D. T. W.

A federal grant to buy equipment for Prince Edward Island's recently-established Division of Dental Public Health has been approved as part of the National Health Program. A survey is being carried out to determine the province's exact dental needs, but in general, the division will concentrate on the prevention of dental troubles and on educating both children and adults in good dental health habits. The federal grant for equipment is approximately \$2,000.

Two nurses who have been awarded bursaries are now enrolled for a year's course in public health nursing at Dalhousie University, Halifax. On completion of their studies they will return to Prince Edward Island to work.

NEWFOUNDLAND

Dr. W. S. Goodwin of Harbour Grace is receiving the congratulations of his many friends upon the completion of 50 years of active practice in Dentistry in Newfoundland.

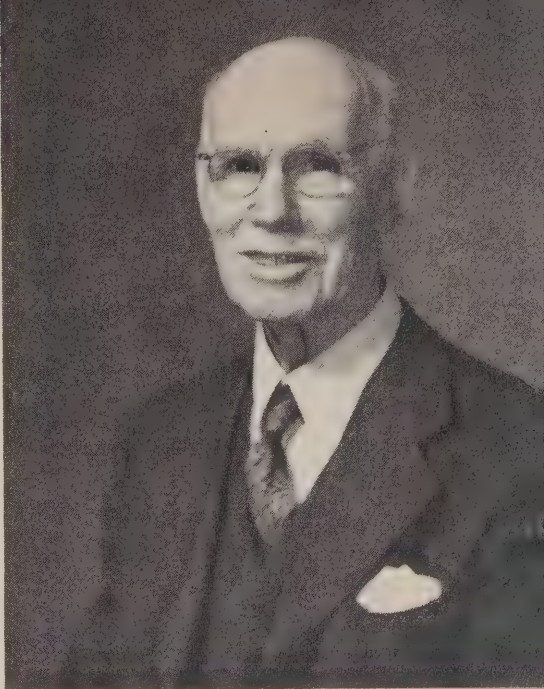
Dr. Whitman Smith Goodwin was born at Baie Verte, New Brunswick, July 27, 1868. He was graduated from the Philadelphia Dental College in 1899 and practised in his native province for a short time. Coming to Newfoundland in April 1900, Dr. Goodwin established residence in Harbour Grace, and has the distinction of being the first dentist to be officially registered in Newfoundland.

Recently members of the Newfoundland Dental Association, at a meeting held in Harbour Grace, honoured Dr. Goodwin with an Honorary Life Membership in the Association, and they expressed the wish that he would be spared many more years to continue his good work among the people of Newfoundland. G. E. M.

BRITISH COLUMBIA

The Vancouver and District Dental Society welcomed an old friend and past-president as its guest speaker for the December meeting.

Doctor Gerald D. Stibbs, former well known Vancouver practitioner; past-president of the Society; past-president of the British Columbia Dental Association; member of the National Research



DR. W. S. GOODWIN, NEWFOUNDLAND

Council of Canada, and an active participant in Ferrier gold foil club work, returned to his old haunts to speak on his favourite subject, "Gold Foil," on December 6. No effort will be made to synopsise the message by the speaker, for his excellent paper will appear shortly in this Journal. In addition to the paper, Dr. Stibbs brought to the meeting a four part coloured film, showing the application of the rubber dam; cavity preparation; application of the matrix, and insertion of an amalgam filling.

Dr. Stibbs is now Professor, Executive Officer of Departments of Operative Dentistry and Fixed Partial Dentures, School of Dentistry, University of Washington, Seattle, Washington.

The January meeting of this Society will be given over, as usual, to home talent groups, and we are assured of an excellent program for both afternoon and evening meetings. The afternoon portion is being presented by the Vancouver Pedodontic Study Club. The program will be a "televised" version of three chair clinics—as follows:

- A Simple Cast Space Maintainer—Dr. Max Nacht.
- A Vital Pulpotomy—Dr. Gordon Jinks.
- A Class 3 Amalgam Filling—Dr. Orville Wright.

The evening session, following the Society's dinner, will be taken over by the Intercity Gold Foil Study Club, under the leadership of Dr. W. K. Sproule, group mentor. Five chair clinics will be pre-

sented, showing Class 3 preparation and insertion, Class 5 preparation and insertion, and rubber dam technique. Three table clinics will demonstrate instrumentation; aspects of gold foil manipulation, and rolling of gold foil. In all, twelve dentists and two dental assistants will participate in the evening's work.

The Victoria Dental Society recently enjoyed a clinic on Anaesthesia and Oral Surgery, presented by that well known and ever popular clinician, Dr. Roy West, of Seattle, Washington. The meeting attracted several out of town visitors, including Dr. R. S. Rose, from Campbell River, at almost the extreme northern end of the populated part of the Island. At the dinner, that evening, cups and prizes won in the recent Dental Society Golf Tournament were presented. A brief report was given by Dr. R. H. McDougall on the affairs of the National Research Council, of which he is a member.

The Victoria Society later viewed the motion picture film on the Airbrasive Technique.

The Fraser Valley Dental Society, at its November meeting, spent much of its time on local business matters, relaxing, later in the evening to enjoy the showing of travel film taken by Doctor C. Foster, of Chilliwack.

The December meeting of this Society again takes the form of a turkey dinner, presented to the dentists by their assistants. A matter of very minor importance will be a talk by a local member of parliament on Valley affairs.

Having experienced one of those turkey dinners staged by the Fraser Valley D.A.'s, the writer feels sorry for the speaker who would attempt to address the members on parliamentary matters, amid such a spirit of good eating and drinking, and holiday conviviality.

The Interior Dental Society met at Kelowna on November 9, to hear a group of speakers, including the officers of the Canadian Dental Association, Doctors Lowry and Gullett, on matters pertaining to the Association generally. Present at the meeting were Doctor Frank McCombie, of the Department of Preventive Dentistry of the Province of British Columbia, and Doctor Ewart Gee, representing the Dental Public Health Committee of the British Columbia Dental Association. Doctors Gee and McCombie addressed the meeting in the morning session, on Public Health matters, and the president and secretary of the Canadian Association spoke at the afternoon meeting. At 5.30 p.m., all adjourned to the Kelowna Golf and Country Club for

dinner. Following the dinner, the meeting adjourned to attend the Vernon-Kelowna hockey game at the Memorial Arena.

The arrangements for the day were well handled by the president, Doctor Butler, and the secretary, Doctor Campbell.

Preparations for the **Eighth Pacific Coast Dental Conference**, to be held at Seattle, Washington, June 25-28, 1951, are well advanced. Since this Conference is to be held so near to British Columbia this year, the British Columbia Dental Association will forego its usual annual convention.

ALBERTA

The Calgary Dental Society met on November 13 to hear the first of the telephone broadcasts presented by the University of Illinois Dental Faculty Post-Graduate Department. A large turnout registered approval of this broadcast.

At the regular monthly meeting of the Society on November 14, Dr. R. P. Lowery, President, and Dr. Gullett, Secretary of the Canadian Dental Association, were guests of the Society. Both gave interesting talks. Dr. Lowery spoke on the need of unity and high ideals among the dentists and their Association. He held an optimistic outlook for the profession.

Dr. Gullett reviewed the work of the Canadian Dental Association during the past year. He referred to the Government's gradual movement towards compulsory health insurance. He said also that the Government does not wish to regiment the profession or destroy the patient-dentist relationship.

The Calgary dentists expressed appreciation of the work done by these two men, and enjoyed their visit.

R. T. Shillington

At the Annual Meeting of the **Calgary Dental Nurses' and Assistants' Association** the retiring President, Miss Shinness, gave a full report of the year's activities. She stressed the objective of the Association, namely, "Association and Education" and pointed out that the Calgary Dental Society had contributed \$50.00 to the Association. During the year there were given 18 full Demonstrations, Clinics, Films and Lectures. There were 16 General Meetings which included the Winter Clinic held at Red Deer with 53 attending. The average attendance for the year was twenty.

The following officers were elected: President, Miss Laura Halpin; Vice-President, Miss Barbara Oliver; Secretary, Miss Helen Smith; Treasurer, Miss Irene

Peacock; Social Convener, Miss Gynell Anderson; Educational Convener (Program), Miss Doreen Stanley.

On December 1, **66 dentists and their wives attended the Annual Ladies' Night** in the sun parlor of the Palliser Hotel, Calgary.

Dr. and Mrs. Alexander of Nanton and Mr. J. B. Upton of Ottawa were out-of-town guests.

Rose corsages were presented to the ladies. A cocktail hour preceded the banquet. During coffee, Mr. Ed Holmes presented "The Financial Report of the Calgary Dental Society". This report was a most hilarious skit presented in true Robert Benchley fashion.

Following this report Dr. C. M. Johnson, President of the Calgary Dental Society, welcomed the guests and introduced the chairman of the banquet committee, Dr. W. Ross Upton, alderman-elect. Dr. Upton introduced the guest speaker, Mr. Eric Ratledge.

Mr. Ratledge is one of Calgary's outstanding amateur photographers. He showed coloured slides of a recent trip to Mexico City. This travelogue left all present most anxious to visit Mexico.

L. K. B.

The November 15 meeting of the **Edmonton and District Dental Society** was held in the MacDonald Hotel. The special guests on this occasion were the President and Secretary of the Canadian Dental Association, Dr. R. P. Lowery and Dr. D. W. Gullett.

The following guests were also present: the Accreditation Committee of the Council on Dental Education of the Canadian Dental Association; Dr. A. C. Lewis, ex-headmaster of University of Toronto Schools and now Dean of the Faculty of Education at the University of Toronto; Dr. A. L. Walsh, former Dean of the Faculty of Dentistry, McGill University; and Dr. Harvey Reid, past president of the Canadian Dental Association. Other special guests at the meeting were Drs. Baden Powell and Ernie Doyle of Calgary, and Drs. Bulyea and Jamieson.

SASKATCHEWAN

The visit of the President and Secretary of the C. D. A. Dr. R. P. Lowery

and Dr. D. Gullett respectively was again a highlight for us in Western Canada. It is regrettable that all members cannot meet them on the annual visitations. The Saskatoon Society was favoured by the presence of the immediate Past President of the Canadian Medical Association, Dr. J. Anderson.

Dr. Lowery in his address referred to the unity of purpose and action of the dentist. He referred to the change from restorative to preventive dentistry and predicted that this century shall become known as the century of social services. He maintained it was inevitable. He referred to the three types of dentists, the parasite, whose interest is solely pecuniary; the apathetic, who is occasionally interested in real service; and the real dentist who is a real contributor of service—who has an allegiance to the profession. He summarized the responsibilities of the dentist as: To think in every way, that would imply professional knowledge and skill, ethics, consideration for the profession, proper concept for the patient and of God.

Dr. Gullett spoke on the assessment of the dental profession on the basis of the School, the Journal and the Association. He referred to the part played by each of these and the immense amount of work carried on by each in face of their many problems. Of particular interest was his reference to the work of the Council on Dental Education in the investigation of courses as given in the dental colleges in Canada.

1. Inspection of the Schools.
2. Dealing with the facts as found.
3. Re-inspection of the Schools to assess the changes.

This project is financially assisted by the Kellogg Foundation.

He maintains that health insurance in some form is here to stay as all three political parties are pledged to it.

Dr. Gullett outlined the progress on the National Headquarters in Toronto and the Library Trust Fund. We as a profession should be proud of the excellent work of the Board of Directors and the present status of the dental profession. Incidentally, the National Headquarters could use financial contributions.

L. D. H.

BRITISH COMMONWEALTH NEWS

NEW ZEALAND

The Editor of the British Dental Journal has this to say, in part, about the **Report of the United Kingdom Dental Mission to New Zealand** in the November 7 issue, a mission which was appointed

to obtain first-hand information as to the work and training of the New Zealand School Dental Nurses.

"The mission record that, after meeting the Council of the Association and many individual members of the profes-

sion, they 'were left in no doubt that the scheme has the full support of the profession.' They, wisely, add in their conclusions that, if it should be decided to adopt a similar scheme or some modification of it in this country, it would be important to secure the fullest co-operation of the profession. On the point of limitation of numbers, it is instructive to note that, although in the first years of the service only thirty dental nurses were trained, Hunter was insistent that each of them should limit her work to 750 children, a figure subsequently reduced to 500. That the principle underlying this limitation of numbers is sound, is hardly open to debate, but it can readily be appreciated that lay authorities might not always easily be persuaded to take such a far-sighted view and be prepared to neglect one or more sections of the population in order that complete treatment might be given to a selected few. Yet such a course is at once the most scientific way of attacking the problem and, in the long run, the least expensive, both in terms of money and manpower. A logical development of this plan is that children who fail to keep two successive appointments are excluded from the scheme until such time as they have been rendered dentally fit by private practitioners at the parents' expense.

"It is interesting to learn from the section of the report dealing with the training of the school dental nurses that this was deliberately divorced from that of the undergraduate dental student and made a direct responsibility of the Department of Health. The aim has been

to emphasize that the dental nurses are auxiliaries and to foster a high esprit de corps among them, and it is worthy of note that there has not been a single complaint of illegal practice by a dental nurse. The work of the nurses in the field is supervised by dental officers and dental nurse inspectors. Each of the six principal dental officers is responsible for the work of 80 dental nurses. He visits each of these once in each term, and makes a detailed report on her clinical work and the organization of the clinic, and is available for consultation at other times. It is clear that working under such a system, the dental nurses carry considerable responsibility, but the mission was satisfied that the system of training "has resulted in a high standard of technical efficiency in the treatment of children within the limits laid down."

Even a brief summary of the report would be seriously incomplete if no mention was made of the work of the dental nurses in dental health education. Preparation for this work forms an integral part of their training, and it is clear that the members of the mission were impressed by the keenness of the nurses in this respect, and of their ability to promote a high standard of oral hygiene among the children for whom they were responsible.

That the scheme has been successful in New Zealand is no longer open to doubt. Nor can it be questioned that it has met a need which probably could not have been met so adequately in any more orthodox way.

GENERAL NEWS

The Twelfth Meeting of the **National Research Council Associate Committee on Dental Research** was held in Ottawa 15-16 October, 1950 under the chairmanship of Dean R. G. Ellis of Toronto. In addition to eleven members, five representatives of grantees were present by invitation to report on their work.

Dr. J. Stanley Bagnall's comprehensive "Bibliography on Caries Research" has been published by the Committee and copies were laid on the table for inspection. Members of the Canadian Dental Association will recall that last summer a condensed version of this work under the title "Trends in Caries Research" was sent to them by the Committee. A limited edition of the complete survey and digest of the literature together with a bibliography of 2300 references has been prepared and is being offered for sale at \$10 per copy. A complimentary copy has been sent to each Canadian Dental school.

Orders for this publication should be sent to the National Research Council, Ottawa, Canada, and remittances made payable to the Receiver-General of Canada, credit the National Research Council.

Interim reports on 19 projects which are being supported by grants-in-aid were considered by the Committee. A very helpful procedure in evaluating the merit of these research studies is the practice now being followed regularly of inviting several grantees or other key workers to present their reports in person at each committee meeting. In this way, the grantees benefit by advice from the members on their work and conversely the Committee obtains sidelights on the researches in progress. This interchange of views frequently clears up small difficulties and sometimes leads to suggestions for new lines of study. Final reports for the year will be reviewed at the next

meeting of the Committee which is to be held in March 1951.

Patients Express Opinions About Their Dentists.

Of 800 dental patients in Tennessee questioned for the Second District Dental Society, most of them said they considered the quality of a dentist's work more important than his personality. Practically all of them said they thought their dentists did all they could to prevent unnecessary pain, but half of them said it was probably fear of pain that kept people from visiting the dentist.

Most of the patients said they liked to know in advance how much their dental care was going to cost them. More than 70 per cent said they were never overcharged, 20 per cent said they were sometimes overcharged, 2 per cent said their dentist always overcharged. Only 3 per cent wanted their dental care paid for through taxation.

Almost unanimously, the patients believed oral hygiene should be taught in schools. Seventy per cent of them, in fact, believed it a more important subject than geography.—*Jour. of A.D.A.*



Picture taken at the Convention of the American Dental Association in Atlantic City last November. Left to Right: Harry S. Thomson, former Field Secretary of the Canadian Dental Hygiene Council; R. P. Lowery, President of the Canadian Dental Association; S. J. Phillips, Ontario Governor of the Canadian Dental Association; Don W. Gullett, Secretary of the Canadian Dental Association.

Canadian Dentists Honoured at Atlantic City.

The following prominent Canadian dentists were made Fellows of the American College of Dentists at its Convention at Atlantic City, October 28: Dr. Gus Ratté of Quebec City, Member of the Board of Governors and of the Executive Committee of the Canadian Dental Association; Dr. J. K. Carver of Montreal, P.Q., Member of the Board of Governors, Past President and Chairman of the Finance Committee of the Cana-

dian Dental Association; Dr. A. Gerald Racey of Montreal, P.Q., Associate Professor of Oral Pathology at McGill University and also at Université de Montréal; Dr. S. W. Bradley, Ottawa, Ontario, Past President of the Canadian Dental Association and of the Royal College of Dental Surgeons of Ontario; Dr. R. P. Lowery of Toronto, President of the Canadian Dental Association and Past President of the Ontario Dental Association; Dr. Thomas R. Marshall of Toronto,

Ontario, Assistant Editor of the Journal of the Canadian Dental Association, and Dr. William G. McIntosh, Associate Professor of Periodontology on the Faculty of Dentistry, University of Toronto.

Dr. Harold Hillenbrand Honoured by Republic of France.—The honorary title of Knight of the Order of Public Health was conferred upon Dr. Harold Hillenbrand, A.D.A. Secretary, by the Republic of France recently in Paris.

Telephone Extension Program.—An exceptionally beautiful manual has been prepared and edited by Drs. Isaac Schour and Saul Levy of Chicago, outlining the Telephone Extension Program for the 1950-51 season prepared by the University of Illinois College of Dentistry.

Five programs have been arranged and will be presented November 13, December 11, January 8, February 12 and March 12.

At the time this booklet was published, 237 dental societies in 45 States had subscribed to the Course. In Canada the following societies are named: Sydney Dental Society, Sydney, N.S.; Halifax Dental Society, Halifax, N.S.; Northwest Society of Dental Medicine, Vancouver, B.C.; Calgary Dental Society, Calgary, Alberta; Moose Jaw Dental Society, Moose Jaw, Saskatchewan; Saskatoon Dental Society, Saskatoon, Saskatchewan; Prince Albert Dental Society, Prince Albert, Saskatchewan; Winnipeg Dental Society, Winnipeg, Manitoba; Alpha Omega Fraternity, Omega Chapter, Toronto, Ontario.

Baltimore Dental Society Televised Program on November 13.—The program included presentations on immediate denture service, airbrasive technique demonstrated on a patient, the preparation of an anterior tooth for a jacket crown, and the taking of an impression and pouring of a model.

The program originated in the dental school of the Baltimore College of Dental Surgery, University of Maryland.

The Dental Payment Plan of The Wisconsin State Dental Society, which will provide dental care on the basis of low cost, with payment in instalments, is now available to component societies.

Basically the plan provides a method whereby patients can pay for dental work, approximating \$100 or more, monthly out of their earnings, over a period as long as a year. No co-signers or collateral will be necessary. Patients who are deemed reliable by the assisting financial agency execute a note to the dentist for the cost of the work plus an amount fixed at \$6.00 or less per \$100 per year, and the dentist receives 96 per cent of the principal amount immediately

upon completion of the work, the note is endorsed to the financial agency without recourse. The remaining 4 per cent is deposited to the credit of the local society as a reserve fund, which feature makes it possible to offer the plan on a low-cost, no recourse basis. All procedures, except collection of the monthly payments after the work is completed, are handled in the dentist's office.—F. Rev. Chic. D. Soc.

The Illinois State Dental Society and its Council on Dental Health have shown their interest in helping the children in the State of Illinois to become more dental-health minded by sponsoring a **State-wide Dental Poster Contest.**

The prime purpose of this contest was to stimulate local and individual interest in dental health and to engrain in the young minds of children the value of dental care by their participation in an active dental project.

Children were given the privilege of selecting the subject of their own choice. The subject could be treated in a serious or humorous manner so long as the poster was related to dentistry and conveyed an idea to the public.

Postmaster Plans For Civil Defense.—The Chicago Post Office has made plans for the assistance of the people in the area served by the Postal Service in the event of a bombing or major catastrophe. In cooperation with the Red Cross, 200 employees have been trained in first aid to assist fellow employees injured while on duty.

The Postmaster, John Haderlein, now plans to extend these facilities and to train all carriers and drivers in every part of the city so that they can assist the injured in case of a catastrophe. Over 5,000 locations will be established throughout the city where first-aid kits can be installed.—F. Rev. Chic. D. Soc.

Milwaukee To Fluoridate Its Drinking Water.—Next year Milwaukee, a city of 633,000, will fluoridate its drinking water. By this action, Milwaukee will become the largest city to use fluoridation for protection of the teeth. Dr. T. A. Hargrove, of Appleton, Chairman of the Fluorine Study Committee of the Wisconsin State Dental Society, says there are 24 communities in Wisconsin which fluoridate their water. Another 41, including Milwaukee, have decided to do so.—N.Y. Jour. of D.

The Nation's Mental Age.—At the recent National Conference on Aging, Dr. Edward J. Stieglitz estimated the present mental age of the U.S.A. as about eight years, and pointed out in proof the fact that any advertising man will admit that

if he writes copy for the eight-year-old child, it will sell goods.

Dr. Steglitz might also have cited the orthodox teaching in schools of journalism, whose faculties are well aware of the facts concerning this matter and prepare their pupils accordingly. If we bear this in mind we will better understand the adolescent and infantile practices of the press and the behaviour of large segments of the public.

If we never lose sight of the country's level of mentality we will possess an infallible insight into the political, social, economic and religious exploitation of the masses of people, and into some of the factors making for war.

Because of this fact we live in great danger, since it is taken advantage of constantly by ambitious and unscrupulous men for whom it is a made-to-order asset.

Dr Stieglitz assumes that the nation will yet attain chronological maturity. —Editorial Med. Times.

American Dental Association dues now total \$20.00 being advanced from \$12.00. This will increase income from dues from \$800,000 annually to \$1,230,000. This was approved by more than two-thirds majority of the delegates at the Atlantic City meeting. During 1951 the total income is expected to reach \$1,597,593.

Nearly 40 per cent more women than men receive dental treatment in the U.S.A., according to the *Journal* of the American Dental Association.

Reporting on a comprehensive survey of a cross-section of the nation's 76,000 practising dentists, B. Duane Moen, director of the Association's Bureau of Economic Research and Statistics, found an over-all trend indicating that 14 women visit the dentist for every 10 men.

The survey, based on a sampling of dental practice for a typical week in April, 1950, also revealed that each dentist had an average of 48.7 patients per week, indicating that a total of 3,700,000 persons in the nation receive some type of dental treatment each week.

On September 9 President Truman signed a **Dentist-Physician Draft Bill** to amend the Selective Service act of 1948. This was rushed through Congress during the week of September 3-9 with the support of the Department of Defence and spokesmen for both the dental and medical professions.

The act authorizes the President to call for the registration with Selective Service of all dentists, physicians and allied specialists who are 50 years of age or less, with the exception of those holding commissions in the armed forces or

the reserve. Those registered will be liable for induction for 21 months of active service.

It is estimated that approximately 45,000 of the nation's 82,000 licensed dentists would be required to register under the act.

XIth International Dental Congress:—

Every practising dentist possessing a legal qualification to practise dentistry in the country in which he received his professional education, or in the country in which he lives, may become an active member of the Congress after approval by the National Committee representing the F.D.I.

Candidates for admission as members must forward an application on the official forms to Mr. H. Parker Buchanan, Secretary General, XIth International Dental Congress, Organising Committee, 13, Hill Street, Berkeley Square, London, W.1. Application forms are obtainable from the National Societies and Committees of the F.D.I., or direct from the Secretary of the Congress. Subscription for an active member is £5 0s. 0d. if the postal date on the application form is prior to January 1st, 1952. After that date, the subscription will be £5 10s. 0d. Subscriptions can now be received and cheques should be made payable to the "XIth International Dental Congress."

Individual members of the F.D.I. of not less than two years standing, and whose subscriptions are not in arrears, shall be admitted to full active membership on payment of half the above subscription.

Undergraduates in dentistry and medicine may be admitted as Associate Members on completion of the appropriate membership form by the payment of a subscription of 10/- (Ten shillings). For all other Associate Members (Dental Nurses, Hygienists, Technicians, Trade Exhibitors or their Representatives, Relatives of Members of Congress, providing they are not practising) the subscription will be £2. 10s. 0d. if received before January 1st, 1952, or £2. 15s. 0d. if received after that date.

The program of Scientific Papers is complete. It therefore follows that Members who wish to take an active part in the scientific deliberations of the Congress may do so by joining in the discussions or by presenting original communications in the form of Table Demonstrations and Scientific Exhibits. As the number of these is also strictly limited, Members wishing to take an active part in any of the Sections whether they desire to give a Table Demonstration or to present the results of their investigations and research work by demonstration or

the exhibition of photomicrographs, wall-charts, etc., are strongly advised by those Committees to make an early application to Mr. G. A. Marrant, Institute of Dental Surgery, Eastman Dental Hospital, Gray's Inn Road, London, W.C.1, giving the following particulars:—

1. Name, Qualifications and Address.
2. Whether connected with a Dental Teaching Institution and if so, in what capacity.
3. A short summary of the material to be presented.
4. Method of presentation, *i.e.*, Table Clinics, Wall Display, Exhibit of Specimens or Models, Film, etc. (Regarding Films it is necessary to state the approximate running time and whether the Film is in Colour, Monochrome, Sound or Silent and also its size.)

At a later date, the Committee will send to all Demonstrators and Exhibitors, whose presentations have been accepted, a detailed questionnaire ascertaining their exact requirements.

Attention is drawn to the fact that the presence of the author is not necessarily required for the showing of the films, the exhibition of wall-charts, photomicrographs and other scientific exhibits.

As the Committee will be receiving a large number of requests for accommodation, visitors are strongly advised to make an early application to Mr. Seymour Robinson, Chairman of the Accommodation Committee, XIth International Dental Congress, 13, Hill Street, London, W.I.

A quarterly *International Dental Journal* is in print. The first issue will appear in September, 1950. Members wishing to subscribe are asked to submit their orders, as soon as possible, to the Publishers, Messrs. Cassell & Company Ltd., 37/38, St. Andrew's Hill, London, E.C.4 (except in U.S.A., where orders should be placed with British Publications Inc., 150 East 35th Street, New York 16, N.Y.). Included in the *Journal* from September, 1951, to June, 1952, will be the Papers, résumés of which will be given at the XIth International Dental Congress. Subsequent issues from that date will print the text of the discussions taking place on those papers.

The annual subscription is £2. 5s. 0d. (single issue 12/6) post free. F.D.I. Members will be entitled to purchase the *Journal* at a 10% discount.

Common Cold.—A recent study by Drs. D. W. Cowan and H. S. Diehl at the University of Minnesota, prompted by the widespread use and extravagant advertising of the antihistamine drugs, concludes as follows:

"Under the conditions of this controlled

study, in which 980 colds were treated in 367 supposedly non-allergic students, there is no indication that ascorbic acid alone, phenindamine tartrate (thephorin) alone, ascorbic acid plus phenindamine, or tripeleannamine (pyribenzamine) hydrochloride have any important effect on the duration or severity of these infections of the upper respiratory tract."

—N.W.Dent

The British Publishing House of Messrs John Wright & Sons Ltd. have undertaken the publication of a new monthly journal entitled "**The Dental Practitioner**" and is being introduced to the Canadian profession by The Macmillan Company of Canada. The subscription price is \$3.50.

Dentistry in public health planning:—

The Midcentury White House Conference for Children and Youth with its emphasis on "the mental, emotional and spiritual qualities essential to citizenship," requested all States to prepare statements reviewing progress made in the provision of services for meeting the total needs of the children of the State, of evaluating the current status of these services, of determining the steps which should be taken, and of following through in promoting action toward this goal.

Governor Dewey appointed a "Citizens' Committee of One Hundred for Children and Youth," to prepare this report. Sectional committees were appointed to aid in the work. The following recommendations relating to dentistry were adopted by the Child Health Section:

1. Full utilization of prophylactic measures which have proven effective and which may be developed in the future.

- (a) Topical application of sodium fluoride should be made available to every child, either through his family dentist or through community facilities.

- (b) Fluoridation of community water supplies in line with the stated policy of the New York State Department of Health.

2. Full utilization of health education techniques with a view to motivation to action rather than distribution of factual material.

3. Personnel.

- (a) Increased facilities for the education of dentists and dental hygienists and to effect a better distribution of services in areas of need.

4. Community dental care program for pre-school and school age children starting with first grade children and

conducted on annual increment basis through private dental care and community facilities.

5. A survey should be made to determine the extent of dental disease other than dental caries, with special reference to lesions of the investing tissues of the teeth and their relationship to growth and development.

6. A dental examination by dental personnel be part of all general physical examinations of children in community programs.—N.Y. Jour. of D.

National Health Week, the seventh observance of which is scheduled for February 4-10, is important. This "Week" is purely a health education project sponsored by the nation's leading voluntary health education association — Health League of Canada—in cooperation with health and education authorities throughout the nation. It is designed to emphasize the facts about health and disease in an effort to create a lasting understanding in the public mind.

Kesel reports on Peoria tooth powder study.—A definite trend for the usefulness of ammoniated dentifrices in reducing dental decay has been reported by researchers at the University of Illinois College of Dentistry.

Results of a two-year study involving 716 grade school children in Peoria showed that an ammoniated tooth powder is more effective in reducing decay activity than a non-ammoniated dentifrice.

Three types of dentifrices were used. One was a dentifrice containing the cleaning agents that are commonly used in dentifrices. A second was a so-called ammoniated dentifrice which contained five percent ammonium phosphate and three percent carbamide. These ingredients are used for the purpose of stimulating and fortifying a natural decay protective mechanism that is depressed in the majority of mouths because of high sugar consumption.

The third dentifrice was similar to the second but with bentonite. The bentonite, a colloidal clay, was added with the possibility that it might prolong the retention of ammonia on the teeth.

Results of the use of these three dentifrices were compared to a control group which was allowed to brush the teeth according to the usual habits. These children did not participate in supervised classroom brushing.

Children in the three dentifrice groups brushed their teeth at their desks at the beginning of the classroom study each morning and afternoon. They also were asked to continue the brushing after each evening meal at home. Brushes

and six tons of tooth powder were provided by the University for the study.

A clinical and x-ray survey of all children by the Illinois State Department of Public Health and the University of Illinois at the end of the two-year study indicated that those who used the ammoniated dentifrice without the bentonite experienced the least dental decay. The percentage of teeth attacked in this group was 20.5 percent less than for those children in the control group who brushed their teeth according to their usual habits.

The non-ammoniated dentifrice was less effective. Youngsters who used this toothpowder had 9.3 percent fewer cavities than the control group. This non-ammoniated dentifrice was prepared according to a formula approved by dental authorities.

A questionnaire which went to the control group also showed that 105 out of 301 children were actually using ammoniated dentifrice at the close of the study.—Ill. D. Jour. Nov. 1950.

University of Illinois announces Faculty for Airbrasive Course:—Dr. Robert S. Black of Corpus Christi, Texas, will head the faculty for the postgraduate course in the use of the airbrasive instrument for cavity preparation which is being offered by the University of Illinois College of Dentistry.

For the first time, television will be used to present the course in its entirety. All lectures and demonstrations will be viewed on the television screen. In this way, dentists enrolled in the course will be able to get an uninterrupted closeup of every operation and will be able to hear clearly the accompanying descriptions.

An airbrasive machine giving promise of substituting in large part for the dentist's rotary drill is described by its inventor, Dr. Black, in *The Journal of the American Dental Association*.

The new instrument was designed to eliminate nearly all vibration, pressure and heat generated by the present drill.

"Airbrasive depends for its action on a fine stream of suitable gas carrying a controlled quantity of small abrasive particles," Dr. Black said.

The abrasive, travelling at supersonic speeds of more than 1,000 feet per second, blasts out the cavity instead of grinding it out and eliminates active contact with the tooth such as occurs with dental drills. It is described as essentially a non-mechanical operation.

Dr. Black emphasized that the airbrasive was not capable of duplicating all the work of a rotary instrument. Its chief use is that of preparing a tooth

for a filling or jacket crown by cutting through tooth enamel, the hardest substance of the human body, and of removing stubborn stains and heavy deposits of tartar from the tooth surface.

He stressed that it is incapable of removing soft decayed dentine, the substance immediately under the enamel, or

of beveling enamel margins. He also said it cannot be used for polishing fillings.

Dr. Black reported on successful use of the airbrasive in more than 2,000 dental cases, including 183 cleanings, 82 preparations for cast gold inlays, 1,398 for amalgam fillings, 401 for silicate fillings and 47 for jacket crowns.

IN MEMORIAM

Paul Walker Winthrope of Saskatoon, aged 73, died December 2. A native of Carlton Place, Ont., Dr. Winthrope was graduated from Northwestern University at Chicago in 1907. He practised in North Battleford and Unity before moving to Saskatoon in 1909.

During his entire practice Dr. Winthrope was a stalwart in the Dental Profession and one of the most capable leaders in Western Canada. At the time of his retirement he was presented with a life membership in the College of Dental Surgeons. He had served for many years as a Councillor of the College of Dental Surgeons, a member of the College's Board of Examiners, and a member of the Senate of the University of Saskatchewan. He was a Past-President of the Western Canada Dental Society and held many other offices.

He was a member of the Masonic Order and the Kiwanis Club.

Dr. Winthrope was truly a good man.
L.D.H.

J. C. Devitt of Bowmanville, Ontario, aged 76, died November 6 in Toronto. He was graduated from the Dental College of the Royal College of Dental Surgeons of Ontario and practised in Bowmanville for 52 years. He was a past president of the Ontario Dental Association.

Dr. Devitt is survived by two sisters.

Percy Harder Van Dervoort of Vancouver, B.C., aged 72, died suddenly from a heart attack November 19, in the Vancouver Hotel where he resided. He was graduated from the Philadelphia Dental College in 1902 and practised in Philadel-

phia for several years before going to Edmonton. He moved to Vancouver in 1920 where he specialized in the practice of Periodontia.

He was a member of Vancouver Rotary from 1929 until two years ago, and belonged to Melrose Masonic Lodge. He had been a member of Shaughnessy Golf Club.

Mrs. Van Dervoort died several years ago.

Oliver Martin of Ottawa, Ontario, aged 84, died November 17. He was graduated from the Dental School of the Royal College of Dental Surgeons of Ontario in 1891. He practised in Ontario for 59 years.

He was one of the oldest active members of the University Club and held honorary life membership in the Ottawa Dental Association. He was also active in the Doric Lodge, AF and AM, and the Scottish Rite.

Dr. Martin is survived by three sons, a daughter, eleven grandchildren and seven great-grandchildren.

Dr. Mendel Nevin of Brooklyn, New York, aged 69, died from a heart attack on November 8. He was graduated from New York University Dental School in 1907.

Following some years of active practice in Brooklyn he established the Novocol Chemical Manufacturing Co. to make local anaesthetic formulae which he had developed. He was also the owner and general manager of Dental Items of Interest and Editor of *Modern Dentistry*.

Dr. Nevin is survived by his widow and two sons, Dr. Hilliard R. Nevin and Dr. Marshall I. Nevin.

*I believe in God even when He is silent.
I believe in love even when feeling it not;
I believe in the sun even when it is not shining.*

An inscription found carved on the wall of a cellar in Cologne where a number of Jews hid themselves for the entire duration of the war.

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NO 1

Conception actuelle des coiffages pulpaire*

par J. ARTHUR RENAUD, D.D.S., Montréal

professeur titulaire, faculté de Chirurgie Dentaire, Université de Montréal

En mars 1948, sur invitation de l'un de vos membres, je venais vous exposer les détails d'une nouvelle méthode européenne, ou plus exactement, d'un nouveau traitement conservateur de la pulpe, consistant dans l'emploi d'un Sulfanilamide, appelé "Septoplix", appliqué directement sur la pulpe, pour en favoriser la guérison.

Fier des premiers succès obtenus, je vous ai donné, alors, la primeur, après avoir expérimenté durant quelques mois sur les patients de la clinique de la Faculté de Chirurgie Dentaire, à l'Université de Montréal.

Cette seconde visite m'acquitte de la promesse faite alors, de revenir vous en faire rapport, convaincu que 200 cas entrepris, sont suffisants pour juger si cette méthode est excellente, bonne ou mauvaise. En toute franchise, je ne peux classer cette méthode ni excellente, ni mauvaise. La raison principale, qui me porte à agir ainsi, est que la preuve histologique n'a pas été produite pour confirmer d'une façon indéniable la guérison parfaite de la brèche pulpaire par une calcification évidente avec le seul concours du Septoplix.

De plus, de nombreux succès remportés en apparence seulement, et j'insiste sur ce mot, grâce aux conditions idéales d'aseptie dans lesquelles la pulpe avait

été exposée, ne suffisent pas, il me semble, pour s'enthousiasmer outre mesure; de même que les insuccès dus à des infections insoupçonnées du corps de la pulpe, et cela, sans apparence de destruction osseuse des tissus ultra-apicaux, ne me permettent pas non plus de tomber dans l'excès contraire.

Je conclus, par conséquent, que n'étant pas ce qu'il y a de mieux, ni ce qu'il y a de pire, il est préférable d'essayer autre chose. D'ailleurs, des expériences concluantes poursuivies avec d'autres médicaments, dont j'ai l'intention de vous dire un mot ce soir, vous convaincront, j'en suis sûr, qu'elles sont plus rassurantes.

De plus en plus intéressé aux traitements conservateurs des pulpes exposées, je cherchai donc d'autres moyens pouvant me donner plus de satisfaction. Je finis par trouver un article intitulé "PULP HEALING", publié dans le Journal of Dental Research d'avril 1949 par les docteurs R. L. Glass et H. A. Zander, où j'appris que des expériences furent poursuivies pendant deux ans sur 40 dents d'enfants de 9 à 15 ans, dont quelques-unes des pulpes avaient été exposées et coiffées avec de l'oxyde de zinc-eugénol, et d'autres avec de l'hydroxyde de calcium. Je cite les résultats obtenus qui se lisent comme suit, intitulés:

*Conférence donnée devant les membres de la Société d'Endodontie de Montréal, le 6 novembre 1950.

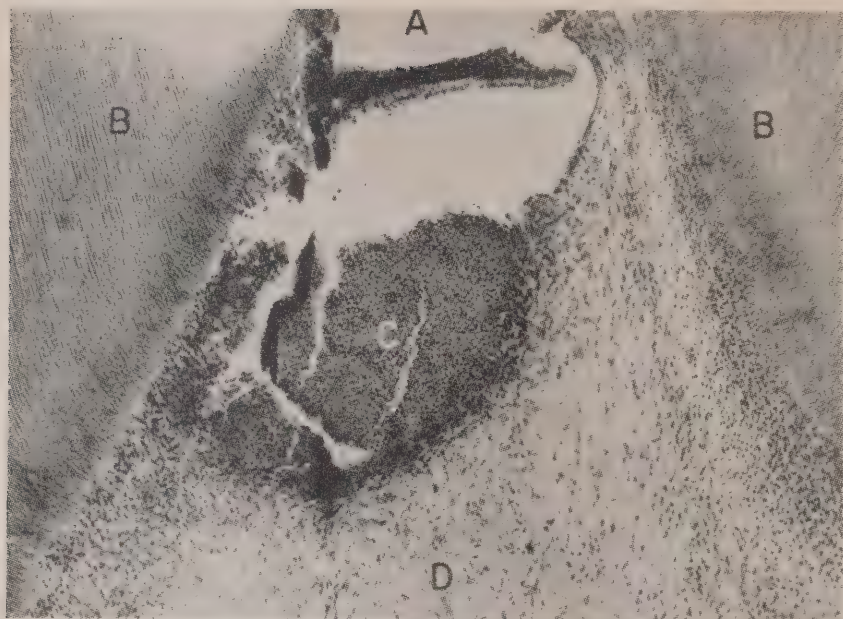


FIGURE 1

Exposition de la pulpe 24 heures après un coiffage fait avec une pâte d'oxyde de zinc-eugénol.

A. Endroit de l'exposition; B. Parois dentinaires; C. Amas hémorragique (ou résidu d'hémorragie), et D. Pulpe. ()*

"RESULTS—Discussion and Summary" (page 99, avril 1949, Journal of Dental Research).

"La guérison d'une pulpe blessée varie suivant l'emploi d'un coiffage fait à l'oxyde de zinc-eugénol ou à l'hydroxyde de calcium. Une exposition de pulpe, 24 heures après qu'elle a été coiffée à l'oxyde de zinc-eugénol, montre au-dessous de la blessure une masse de cellules de sang rouge et des leukocytes polymorphonucléaires." (fig. 1)

"L'hémorragie est démarquée sous le tissu pulpaire par une zone de fibrine et de cellules inflammatoires. Il y a hémorragie dans la portion coronaire de la pulpe et une infiltration modérée de leukocytes polymorphonucléaires. Par contre, il y a un contraste frappant après 24 heures d'une exposition de pulpe coiffée par l'hydroxyde de calcium." (fig. 2)

"Il n'y a pas d'hémorragie, si ce n'est quelques cellules inflammatoires. Cependant, la partie superficielle de la pulpe qui est en contact avec l'hydroxyde de calcium est nécrosée, il y a quelque peu ou pas de détail cellulaire. Cette région nécrosée est démarquée à partir du tissu pulpaire sain au-dessous d'une zone nouvelle profondément colorée. Cette zone est formée d'éléments de base renfermant des protéinates de calcium." (fig. 3)

"L'hydroxyde de calcium basique dont le PH est d'environ 11, mortifie le tissu superficiel; la présence de globules de protéinate représente probablement la pénétration de l'hydroxyde de calcium qui finalement réagit avec le tissu protéiné pour former une nouvelle structure."

"Deux semaines après un coiffage fait avec l'oxyde de zinc-eugénol, la dégéné-

*La reproduction de cette coupe histologique, et des autres qui suivent, ont été tirées d'un article intitulé: "PULP HEALING" écrit par les Docteurs R. L. Glass et H. A. Zander, dans le "Journal of Dental Research" d'avril 1949, pp. 97-107 et gracieusement mises à la disposition de l'auteur.

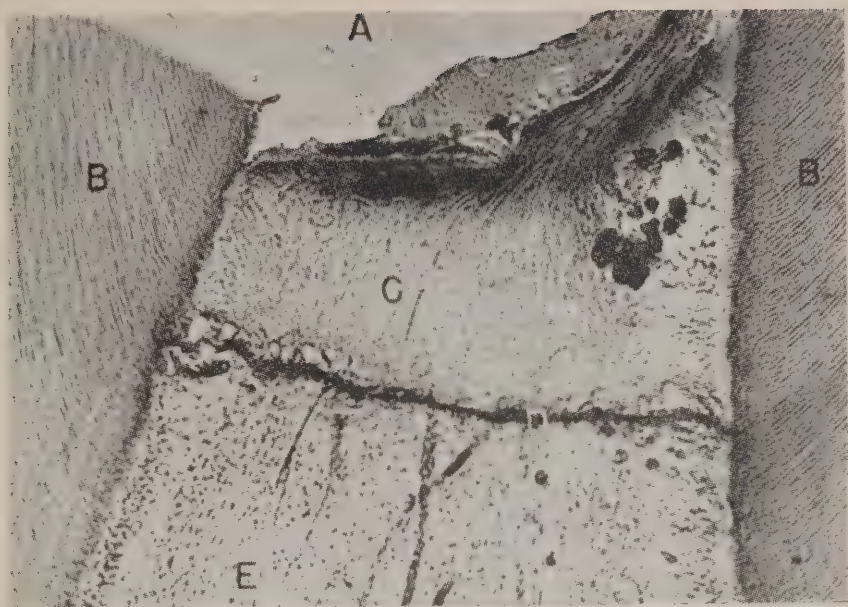


FIGURE 2

Exposition de la pulpe 24 heures après un coiffage fait avec le CA (OH) 2.

A. Endroit de l'exposition; B. Parois dentinaires; C. Région nécrosée; D. Ligne de démarcation et précipitation de protéinate de calcium; E. Pulpe.

rescence est apparente à l'endroit de l'exposition et une inflammation chronique existe au-dessous du tissu pulpaire." (fig. 4)

"Des lymphocytes, des cellules de plasma et des leukocytes polymorphonucléaires apparaissent à l'endroit de la brèche; il y a hyperémie et hémorragie dans le tissu sous-jacent. Une exposition vieille de deux semaines chez le même patient, mais coiffée avec l'hydroxyde de calcium, montre un processus de guérison bien en marche." (fig. 5)

"Une partie du tissu pulpaire superficiel nécrosé par l'hydroxyde de calcium reste à l'endroit de l'exposition. La zone démarquée de protéinate en formation, vue dans un spécimen de 24 heures, coiffée avec l'hydroxyde de calcium est encore présente; près de cette zone, il y a une nouvelle région de tissu fibreux plus dur." (fig. 6)

"Cette structure fibrillaire peut être semblable aux fibres ou d'un type primitif d'os, trouvé dans la guérison

rapide de l'os. Comme l'os primitif, cette structure fibrillaire ou de dentine primitive est fort probablement la seule partiellement calcifiée, puisque la calcification tend à se développer au-dessous de cette première matrice. Dans le pourtour de ce nouveau tissu fibreux, des cellules semblables aux odontoblastes apparaissent bien rouges. Ceci est le premier signe de différenciation de nouveaux odontoblastes. Le tissu pulpaire au-dessous est normal et sans inflammation."

"Une exposition quatre semaines après un coiffage avec l'oxyde de zinc-eugénol montre une plus grande zone d'inflammation chronique s'agrandissant." (fig. 7)

"Des leukocytes polymorphonucléaires, des lymphocytes et des cellules de plasma sont présents. Les fragments de dentine forcés dans la pulpe sont résorbés à quelques endroits; une nouvelle dentine se forme autour d'autres régions pour se joindre ensemble à ces fragments. Une

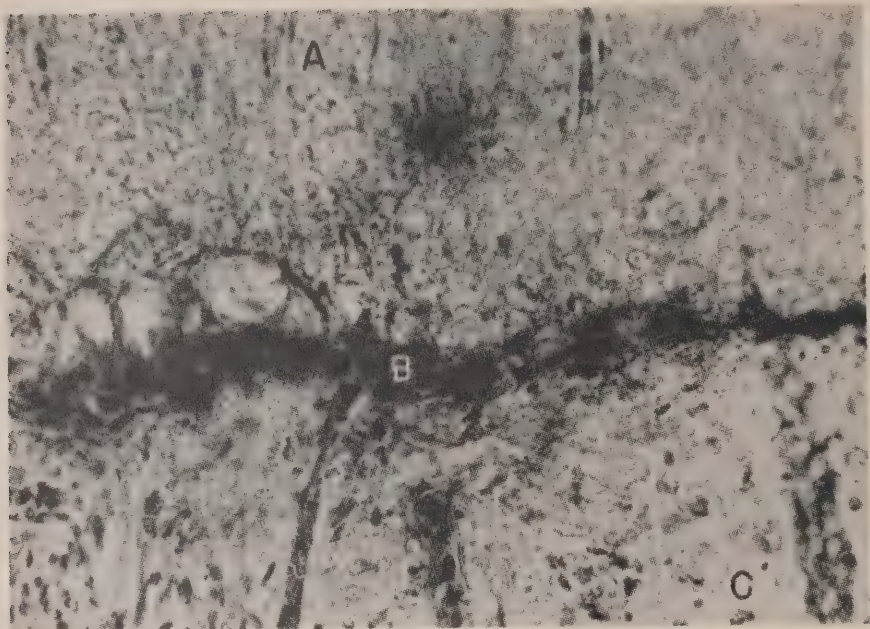


FIGURE 3

Agrandissement de la ligne de démarcation montrée à la Figure 2.

A. Région nécrosée; B. Ligne de démarcation et précipitation de protéinate de calcium; C. Tissu pulpaire vivant.

exposition chez le même patient, dont la dent fut extraite quatre semaines après avoir été coiffée avec de l'hydroxyde de calcium, est montrée à la Figure 8". (fig. 8)

"Le tissu superficiel nécrosé par l'hydroxyde de calcium est rejeté au dehors. La zone de démarcation de protéinate, vue dans le spécimen original de 24 heures, est encore visible. Près de la structure fibrillaire, formée après deux semaines, une zone bien définie de nouvelle dentine s'est déposée avec une couche adhérente de nouveaux odontoblastes, les deux contiguës, avec les parois de la chambre pulpaire. La Figure 9, qui est un agrandissement de la Figure 8, montre en détail la dentine nouvellement formée et les odontoblastes. Le tissu au-dessous est normal. La pulpe est guérie." (fig. 9)

"Même après huit semaines, une exposition coiffée avec de l'oxyde de zinc-eugénol n'est pas guérie." (fig. 10)

"L'endroit de l'exposition est enveloppé par des cellules inflammatoires chroniques. Le tissu pulpaire au-dessous est légèrement infiltré de lymphocytes et de leucocytes polymorphonucléaires. Ce qui reste de la pulpe est essentiellement normal. Une nouvelle dentine est déposée autour des fragments dentinaires poussés dans la pulpe. Une exposition du même patient, coiffée depuis huit semaines, avec l'hydroxyde de calcium montre un stage avancé dans le processus de guérison." (fig. 11)

"Les mêmes éléments vus dans un spécimen de 4 semaines sont présents. Cependant, la barrière de dentine est plus épaisse et les odontoblastes apparaissent alignés plus régulièrement."

"On a défini d'abord la guérison d'une pulpe exposée comme étant la fermeture de la partie exposée par une nouvelle dentine. D'après cela, des pulpes saines, jeunes, coiffées avec l'hydroxyde de calcium sont guéries après 4 semaines.

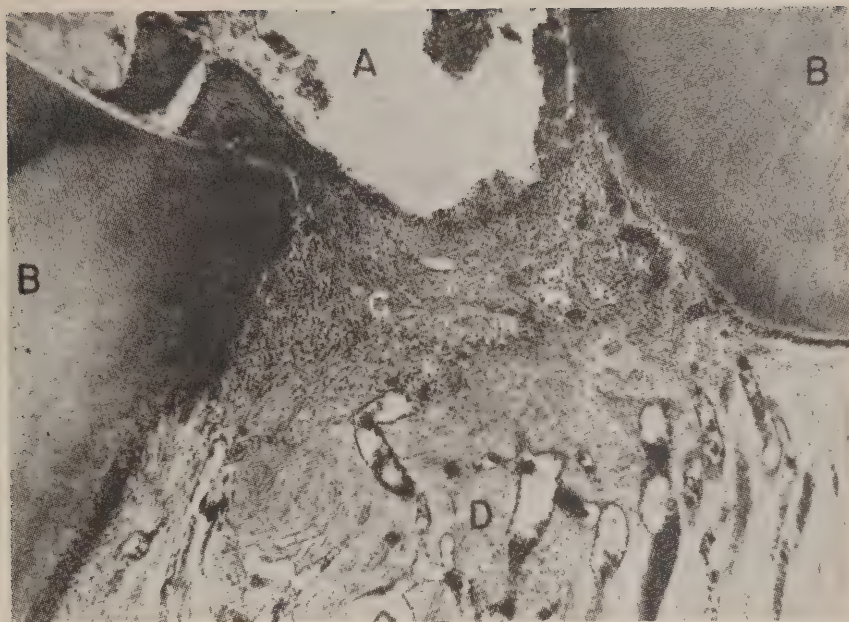


FIGURE 4

Exposition de la pulpe deux semaines après un coiffage avec une pâte d'oxyde de zinc-eugénol.

A. Exposition; B. Parois dentinaires; C. Région d'inflammation chronique; D. Région de l'hyperémie et de l'hémorragie.

(Voir fig. 8). L'oxyde de zinc-eugénol n'a pas provoqué la guérison de pulpes saines et jeunes exposées. Bien que les pulpes coiffées avec l'oxyde de zinc-eugénol restent vivantes et sans symptômes cliniques durant le cours de cette expérience, une réaction inflammatoire chronique persiste à l'endroit de l'exposition. Ceci démontre l'inefficacité de l'évaluation clinique seule de telles expériences. Dans plusieurs cas, une dentine nouvelle fut déposée autour des fragments de dentine repoussés dans la pulpe. Dans un cas, une nouvelle dentine fut déposée sur la paroi de la chambre pulpaire dans une tentative de diminuer le diamètre de l'ouverture de la pulpe et joindre les fragments de dentine pour faire une barrière. Le seul signe de guérison observé fut cette tentative de joindre les fragments dentinaires forcés dans la pulpe par une fraise lors de l'exposition. En aucun cas, une exposi-

tion coiffée d'oxyde de zinc-eugénol ne se ferma complètement par une nouvelle formation de dentine, durant les 12 semaines que dura cette étude."

"D'un autre côté, les critères précédemment mentionnés concernant la guérison de la pulpe sont constatés quand il s'agit d'expositions coiffées avec l'hydroxyde de calcium. En-dedans de quatre semaines, la continuité de la couche odontoblastique a été restaurée, l'exposition a été emmurée par une formation de nouvelle dentine et la pulpe est devenue normale. Lorsque l'hydroxyde de calcium vient en contact avec le tissu pulpaire exposé, il se fait une déposition linéaire de protéinate de calcium formant une zone de base qui démarque fortement le tissu pulpaire normal de la région superficielle nécrosée par l'hydroxyde de calcium. Près de la zone de protéinate, il se produit une prolifération d'éléments fibreux et denses

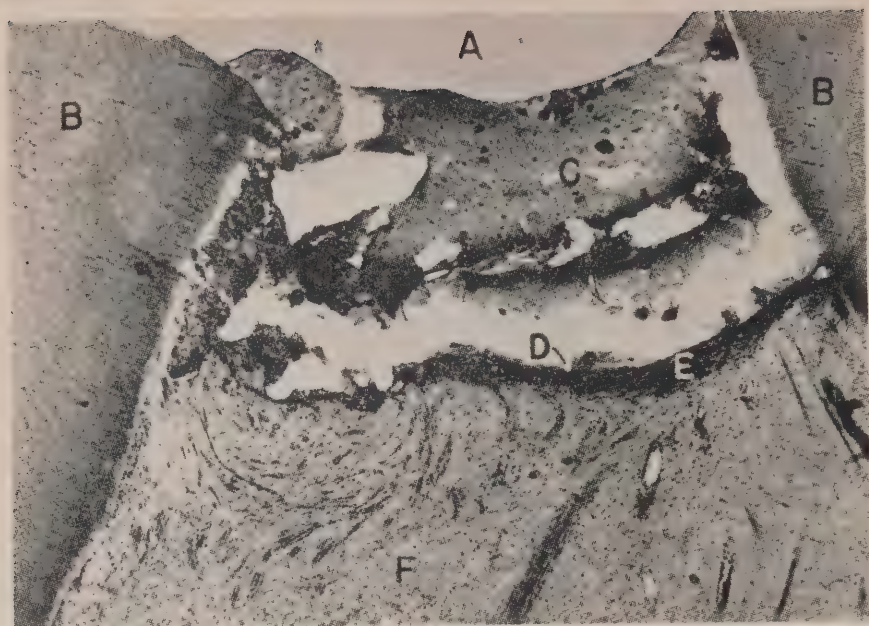


FIGURE 5

Exposition deux semaines après un coiffage avec l'hydroxyde de calcium CA (OH) 2.

A. Endroit de l'exposition; B. Parois dentinaires; C. Région nécrosée; D. Ligne de démarcation; E. Région de prolifération fibreuse; F. Pulpe.



FIGURE 6

Agrandissement de la région D et E de la Figure 5.

A. Ligne de démarcation; B. Prolifération fibreuse; C. Capillaire entouré de prolifération fibreuse; D. Alignement de cellules pulpaire qui sont différenciées en odontoblastes; E. Nerf; F. Capillaire.

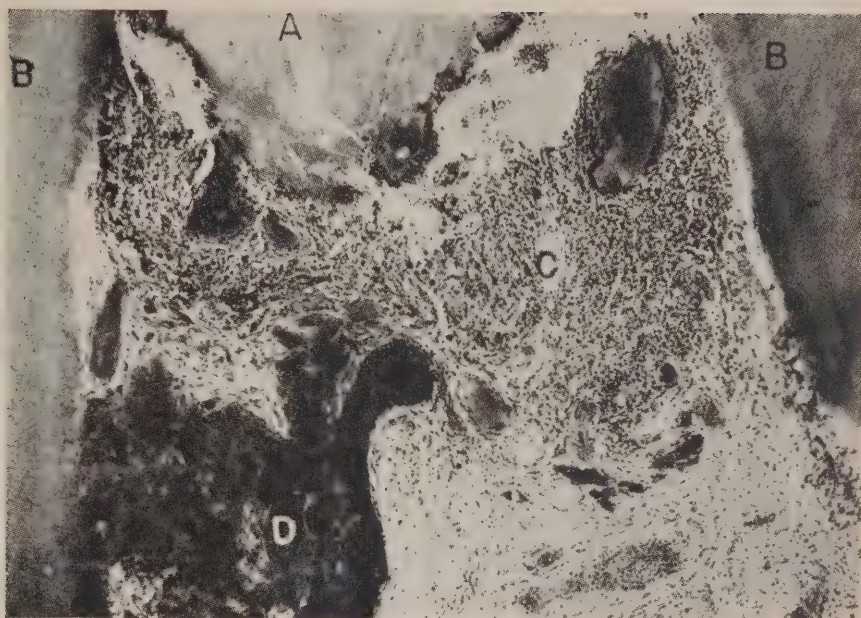


FIGURE 7

Exposition 4 semaines après un coiffage avec l'oxyde de zinc-eugénol. A. Endroit de l'exposition; B. Parois dentinaires; C. Région d'inflammation chronique; D. Fragments de dentine.

qui se change en calcification pour former ce que l'on appelle un type de dentine "primitif". Après deux semaines, de nouveaux odontoblastes commencent à se différencier et une barrière de nouvelle dentine est formée pour joindre les parois de la chambre pulpaire et compléter le processus de guérison."

"La guérison de la pulpe fut étudiée en se servant de l'oxyde de zinc-eugénol et de l'hydroxyde de calcium, et ce, en exposant de jeunes pulpes saines. Aucune guérison ne fut observée sous les pulpes exposées et coiffées par l'oxyde de zinc-eugénol; les pulpes ainsi traitées restent vivantes, mais une réaction inflammatoire chronique persiste à l'endroit de l'exposition. Cependant, lorsque des pulpes sont exposées et coiffées avec l'hydroxyde de calcium, un processus de guérison rapide est observé, relativement libre d'inflammation. En-dedans de 4 semaines, l'endroit original de l'exposition est complètement emmuré par une couche

nouvelle odontoblastique et une barrière de nouvelle dentine."

Nous possédons maintenant la preuve indéniable et indiscutable—puisque'elle est histologique—de la guérison possible par calcification, c'est-à-dire, par fermeture de la brèche pulpaire, et cela, chez les enfants âgés de 9 à 15 ans.

Je prends la liberté d'exprimer avec fierté à Glass et Zander toute notre reconnaissance d'avoir établi cette preuve, si attendue, lors de leur présentation de coupes histologiques dans le *Journal Dentaire de Recherches* d'avril 1949. Mais j'en réserve à Zander, cependant, la plus grande part, étant donné ses expériences personnelles entreprises antérieurement, relatées à la 17e Assemblée Générale de l'International Association for Dental Research, à Cleveland, Ohio, le 18 mars 1939.

Espérons qu'un jour la preuve histologique de la guérison possible des pulpes blessées de toutes les dents, aussi bien

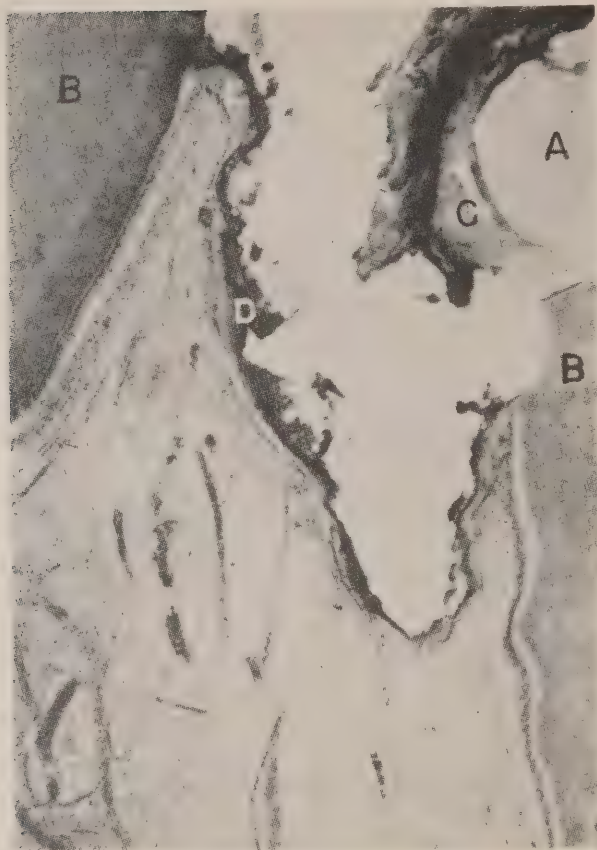


FIGURE 8

Exposition 4 semaines après un coiffage avec CA (OH) 2. A. Endroit de l'exposition; B. Parois dentinaires; C. Reliquat de la région nécrosée; D. Zone de démarcation et dentine primitive; E. Barrière de nouvelle dentine.

permanentes que temporaires, enlèvera tout doute concernant les premières. Cette preuve reste donc à faire pour compléter le cycle des deux dentitions, car vous n'êtes pas sans savoir que dans le cas de coiffages sur dents permanentes, différents facteurs peuvent différer la guérison de la pulpe, comme le prétendent plusieurs auteurs.

Un autre genre de coiffage sur lequel je veux attirer votre attention est celui préconisé par le Docteur Austin H. Kutscher, de New York, dont la technique a été publiée dans la revue "Dental Digest", en septembre 1950. Elle vaut la peine d'être lue, parce qu'elle

est fort détaillée et mérite d'être essayée dans certains cas d'expositions plus grandes de la pulpe avec infection. Cet article est intitulé: "Coiffage à la pénicilline de sodium." Cependant, je mentionnerai que l'auteur ne craint pas de dire que: "dans les conditions de cette recherche, les dents qui ont été traitées et guéries n'ont pu être extraites pour examen histologique. Jamais une réaction toxique à la pénicilline ne s'est manifestée localement ou ailleurs. Une autre série utilisant la streptomycine et l'auréomycine est en voie de progrès."

C'est tout ce que je puis vous rapporter sur les nouveaux développements

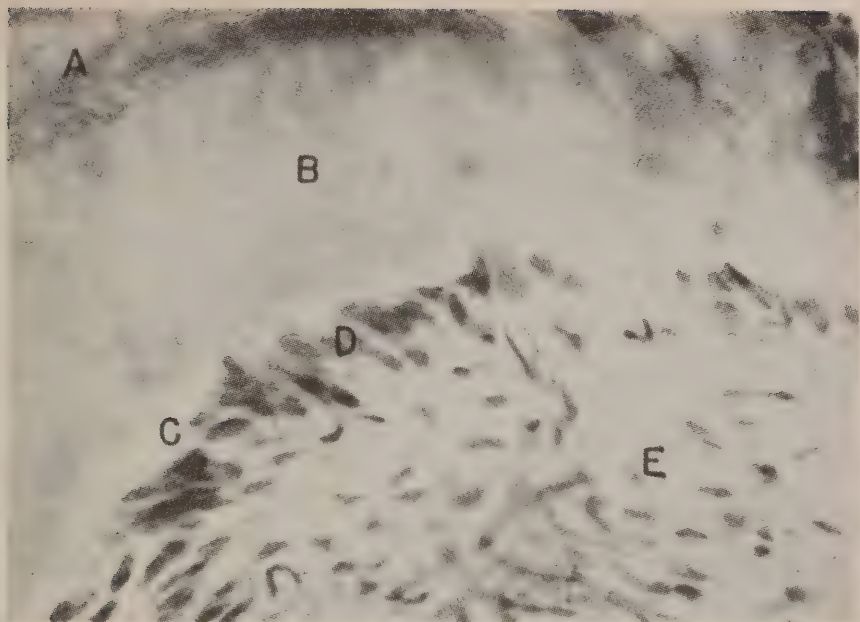


FIGURE 9

Agrandissement des régions D et E de la Figure 8. A. Dentine primitive; B. Barrière (ou enclos) de nouvelle dentine; C. Prédentine; D. Odontoblastes; E. Pulpe.

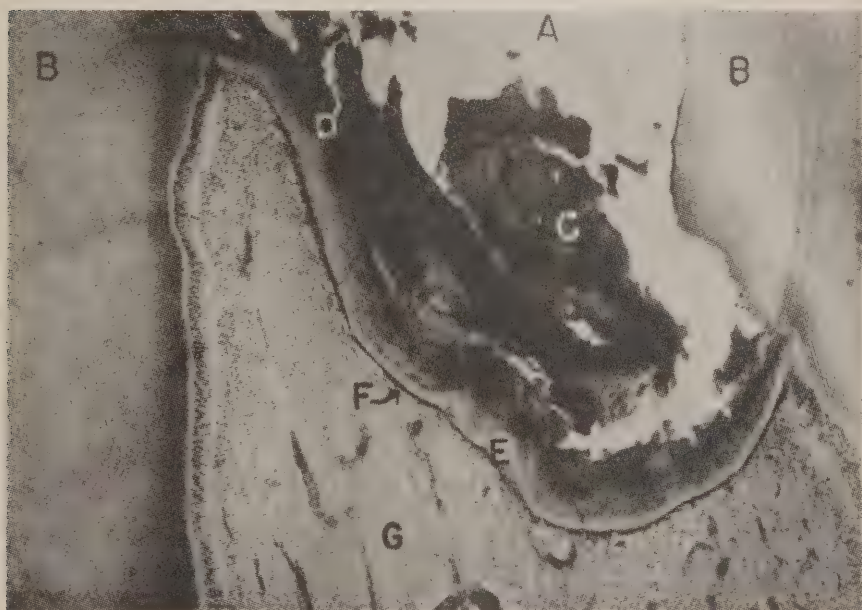


FIGURE 11

Exposition 8 semaines après un coiffage fait avec CA (OH) 2. A. Endroit de l'exposition; B. Parois dentinaires; C. Reliquat de la région nécrosée; D. Zone de démarcation et dentine primitive; E. Barrière (ou enclos) de nouvelle dentine; F. Couche odontoblastique contigue; G. Pulpe.



FIGURE 10

Exposition 8 semaines après un coiffage avec l'oxyde de zinc-eugénol. A. Endroit de l'exposition; B. Parois dentinaires; C. Région d'inflammation chronique; D. Fragments de dentine; E. Pulpe normale.

ayant trait aux coiffages de pulpes jusqu'à date.

En terminant, je vous dirai quelques mots au sujet d'expériences personnelles faites sur plus de 200 cas de coiffages de pulpes à la Clinique de Dentisterie Opératoire de la Faculté de Chirurgie Dentaire de l'Université de Montréal. Il faut bien comprendre que la clinique est l'endroit tout indiqué pour faire de la recherche, à condition de ne pas mettre la vie des patients en danger et pourvu que l'on puisse intervenir à la moindre complication. D'ailleurs, si le cas entrepris ne se termine pas par un succès, il est toujours possible de sauver la dent,

quand même, en ayant recours au traitement d'extirpation partielle ou totale de la pulpe, d'après les méthodes nouvelles préconisées par les endodontistes. A tout événement, ce n'est pas l'avulsion totale de la dent. Ces expériences sont faites indifféremment sur les dents d'adultes ou d'enfants. La technique suivante est appliquée: elle consiste à mélanger deux médicaments en parties égales d'abord, pour ensuite les malaxer avec de l'eau distillée. Ces médicaments sont l'hydroxyde de calcium, bien connu, dont se sert Zander, et un Sulfanilamide appelé Septoplix, le premier servant à mortifier le tissu superficiel de la pulpe sans effet

en profondeur, et le second à prendre soin de la région nécrosée, qui peut demeurer en permanence.

La pâte produite par ce mélange est ensuite déposée sur l'exposition même de la pulpe pour être légèrement poussée en place, au moyen d'une boulette de coton, ce qui facilite son étendue et absorbe l'eau venant à sa surface. La cavité est ensuite remplie d'oxyde de zinc-eugénol ou Dentalone.

Malgré de nombreux succès apparents,

je ne puis affirmer encore, la preuve n'étant pas faite histologiquement, comme l'a fait Zander, que la guérison est parfaite, c'est-à-dire sans cellules de plasma, lymphocytes ou leucocytes polymorphonucléaires sous-jacents, pouvant déclencher une poussée inflammatoire ultérieure. J'espère, un jour, pouvoir présenter cette preuve histologique, soit en la rapportant dans une publication, ou devant un auditoire aussi sympathique et indulgent que le vôtre.

3221 De Sérigny

SUMMARY

The author comments on an article written by Glass and Zander in the Journal of Dental Research (April 1949), where histological findings of exposed pulps capped with Calcium Hydroxide are studied. In the present article, the clinical results following the use of Zinc Oxide-Eugenol and $Ca(OH)_2$, for more than two hundred cases of exposed pulps, both in deciduous and permanent teeth, are compared.

The use of $Ca(OH)_2$ is suggested and the complete technique is described.

NOUVELLES DE L'ASSOCIATION

Fonds de Fiducie pour une Bibliothèque.

L'établissement des quartiers-généraux de l'A.D.C. dans un nouvel immeuble permet la réalisation d'une nécessité inhérente à un organisme scientifique. Une condition primordiale de l'organisation scientifique d'une profession réside dans l'élaboration d'une bibliothèque. Les nouveaux locaux, dont dispose l'Association, donnent l'espace nécessaire pour réaliser ce projet. L'embryon de bibliothèque, que possède actuellement notre Association, peut se développer, avec le temps, en un service de bibliothèque utile et effectif.

Dans ce but, des démarches ont été entreprises auprès du Ministère du Revenu National pour la création d'un Fonds de Fiducie pour une Bibliothèque, pour lequel les dons seraient exempts de l'Impôt sur le Revenu. Une réponse favorable a couronné les efforts des dirigeants de l'Association. Les souscripteurs à ce Fonds recevront un reçu officiel, qui, attaché au rapport, leur permettra de déduire le montant versé.

Il est à noter que le texte du Fonds

établissant le Fonds de Fiducie pour une Bibliothèque (voir plus bas) nomme le docteur T. Howard Graham, de Toronto, comme fiduciaire du Fonds, en compagnie du Président et du Secrétaire. Le docteur Graham a été mêlé à plusieurs projets intéressants au bénéfice de la profession dentaire et son zèle et son activité sont des garanties pour mener à bonne fin l'organisation d'une bibliothèque d'envergure.

Texte du Fonds établissant le Fonds de Fiducie pour une Bibliothèque

Le texte du Fonds est rédigé ce 4ième jour du mois d'octobre, A.D. 1950, par l'Association Dentaire Canadienne, Canadian Dental Association, une compagnie incorporée par une loi spéciale du Parlement du Canada (ci-après nommée "L'Association").

Attendu que le Bureau des Gouverneurs et les membres de l'Association désirent l'établissement d'une bibliothèque et son maintien pour le bénéfice de la profession dentaire et pour le bénéfice et les renseignements du public

désireux de s'instruire sur l'histoire et l'exercice de la dentisterie;

Attendu que l'Association a approuvé l'établissement et le maintien d'une telle bibliothèque et qu'elle a reçu et qu'elle recevra des montants d'argent, des volumes, des périodiques et d'autres objets de ses membres et d'autres personnes comme contributions bénévoles, qui seront consacrées dans ce but;

Attendu que l'Association désire l'établissement d'une telle bibliothèque et placer en fiducie les argents reçus et à recevoir, pour les garder et les administrer;

Il est consenti, par les présentes, ce qui suit:

- 1) L'Association déclare que toutes les sommes reçues et à recevoir dans le but d'établir et de maintenir une bibliothèque seront placées dans une fiducie et que cette fiducie sera connue sous le nom de Fonds de Fiducie pour une Bibliothèque.
- 2) Le Fonds de Fiducie pour une Bibliothèque sera administré par un Comité d'Administration, formé du Président du Bureau des Gouverneurs de l'Association, le Secrétaire-trésorier de l'Association et toute autre personne nommée de temps en temps par le Bureau des Gouverneurs; ces personnes ne devront pas être nécessairement membres de l'Association, ni engagées dans l'exercice de la dentisterie.
- 3) Le Fonds de Fiducie pour une Bibliothèque sera placé et ré-investi dans des

obligations autorisées par la loi, de temps à autre, pour les placements des compagnies d'assurance canadiennes et anglaises.

4) Le Fonds de Fiducie pour une Bibliothèque et ses revenus seront utilisés par les membres du Comité, à savoir:

- a) pour acquérir une bibliothèque de volumes, périodiques, transparents, graphiques, modèles ou d'autres objets du même genre, dans l'intérêt des dentistes et d'autres personnes désireuses de se renseigner sur l'histoire et l'exercice de la dentisterie;
- b) pour se procurer des locaux convenables, des rayons, des montres et autres accessoires pour loger, disposer, et étaler les objets acquis au profit de la bibliothèque;
- c) pour payer un salaire à un bibliothécaire et à toute autre personne qui, dans l'opinion du Comité, sera indispensable pour l'entretien et le bon fonctionnement de la bibliothèque.
- 5) Le Comité fera des règlements pour la bonne conduite de la bibliothèque et prendra les décisions nécessaires ou utiles pour faire connaître à la profession dentaire et au public en général les buts et le contenu de la bibliothèque et les intentions, qui ont présidé à sa fondation.
- 6) Le Comité préparera un rapport annuel à l'usage de l'Association; ce rapport renfermera un inventaire de la bibliothèque et une liste des services, qu'elle a rendus.

Lettre aux Gouverneurs, No 33





As we go to press the sad word reaches us of the sudden death from a heart attack of Dr. Kenneth Carver of Montreal on January 28. He was President of the Canadian Dental Association in 1947; a Past President of the Montreal Dental Club, Westmount Rotary Club and Catholic Laymen's Retreat Association.

At the time of his death he occupied many important positions including the following: Vice-President of the College of Dental Surgeons of the Province of Quebec; Chairman of the Finance Committee of the Canadian Dental Association; Lecturer in Ethics at the Faculty of Dentistry, McGill University, and Dental Surgeon to St. Mary's Hospital, Montreal, being a member of the Medical Board of that hospital. He was a Fellow of the American College of Dentists and of the International College of Dentists.

A further "In Memoriam" notice will appear in the next issue of the Journal.



E. P. KAVANAGH, D.D.S.
St. John's, Newfoundland.

First Appointed Governor to the Canadian
Dental Association from Newfoundland
Registrar of the Newfoundland Dental Board
Chairman of the House Committee of the
St. John's Curling Association
Director of Dental Supplies Ltd., St. John's.



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No. 2

The Full Lower Denture

Consideration of Eight Points For Its Improvement

by WILFRED D. CLARK, D.D.S., Hamilton, Ontario

THE full lower denture has always presented one of the most serious problems in the practice of Dentistry. The professional status of many dentists has been greatly enhanced through an ability to make a successful lower denture. On the other hand, failures appear to be common. A survey in the United States discloses that only 43% of denture patients stated that they were "satisfied." The following points are presented in the hope that they may assist in some small degree to add to the efficiency of the lower denture and the comfort of the denture patient.

No attempt is made to discuss impression techniques. The literature is heavy with them. Oftentimes, the method which comes most acceptably to the individual's hand is best for him to employ. However, it is suggested that the full lower impression should cover more area than is intended to be used in the denture. All borders should be thoroughly overextended. The final border length is established by trimming the denture itself.

This is accomplished by holding the inverted denture in the left hand and with a soft pencil held *horizontally* in the right, making a line which marks the greatest height of the muscle roll around the entire periphery of the denture, buccally and lingually. The border is then trimmed *horizontally* up to this pencil mark. This is most easily accomplished on the laboratory lathe

using a 4" Dedeco stone which has had its corners well rounded off. (The 3" stone is too small to reach all positions easily.) It should be noted that these cuts are all made at right angles to the flanges being shortened.

Next, using the same stone on the lathe, the walls are made one-eighth of an inch in thickness around the periphery, except in the sublingual area which is one-quarter inch. The lateral extent of the sublingual area is discussed under Point 2. Then using an acrylic trimmer or vulcanite bur in the handpiece, the border is given a generous roll for its entire length.

POINT 1.

THE LABIAL WALL

The labial wall is considered as extending in width from roughly the area of the distal of the second bicuspid on the right side to the same point on the left. In depth, *i.e.*, from teeth to border of denture, the wall should be considerably deeper than is commonly seen. A deeper wall will often overcome the difficulty of a denture which will not stay down to place. If its greater depth causes soreness in the labial frenum area, trim only enough to give relief—no more. Re-roll the trimmed area and give it a high polish.

The buccal wall, which extends from a point opposite the distal of the second bicuspid distally to the buccal outline of the retromolar triangle, is trim-

med short to overcome lift of the denture on opening the mouth.

POINT 2.

THE SUBLINGUAL EXTENSION

The lateral extent of this area corresponds to the extent of the labial area, *i.e.*, from a point opposite the distal of the second bicuspid on the right side to the same point on the left. Where it ends, the mylohyoid begins. The mylohyoid ends in the retromylohyoid, a small area at the extreme distal of the lingual wall which has as its most important feature a rather shallow undercut.

The mylohyoid and retromylohyoid

length of the sublingual wall, it is better that it be slightly shorter rather than longer. The tongue side of the lingual wall in the area of the sublingual extension should be hollowed out to add to tongue space. The concavity should not extend low enough to endanger the $\frac{1}{4}$ " roll of the border.

It can be noted at this point that hollowing of the entire lingual flange back to the second molar area is desirable and very acceptable to the patient. There will be no "tongue trap" from this cause.

In concluding this point, it should be stressed that the sublingual extension will add more to the stability of the

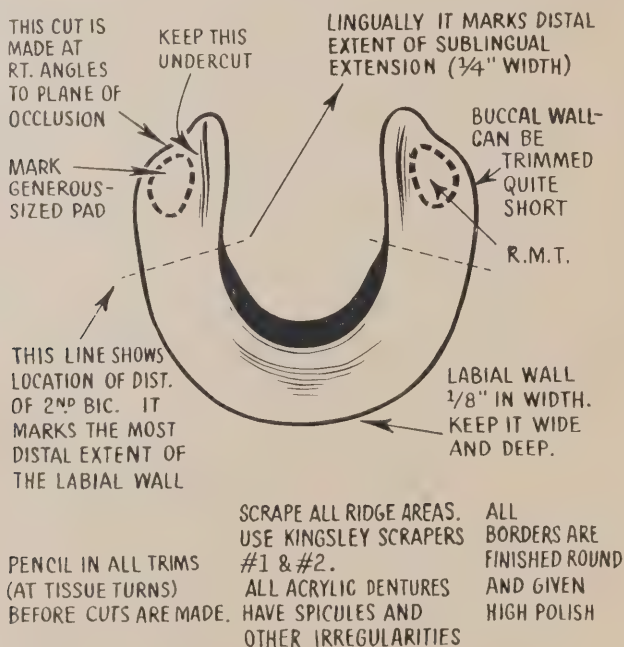


FIG. 1

areas have borders $\frac{1}{8}$ " in thickness but the border of the sublingual extension is made $\frac{1}{4}$ " thick. The length of the wall is determined by the position of the muscles of attachment with the tongue at rest. This is distinguished from (a) a protruded tongue and (b) a tongue dropped low on the floor of the mouth.

Should there be any doubt as to the

lower denture than any other single feature in lower denture outline. It is worthy of all the study it takes to perfect its use. The operator who learns it will not leave it. (Fig. 1.)

POINT 3

THE RETROMOLAR TRIANGLE AREAS

The lengths of the most distal portions of the denture are determined by

the position of the retromolar triangles. Before trimming in this area, the retromolar triangles should be outlined in pencil on the tissue side of the denture. If in doubt as to its exact extent, draw a generous sized triangle. Do not trim to this line at any point. On the buccal side, trim so that the triangle is just avoided.

Across the distal border, trim to roughly 1-1½ mm. beyond the pencil mark at the distal of the retromolar triangle. Note that this extreme distal border must eventually be rolled and polished just as thoroughly as the rest of the denture border.

The line established across the distal outline of the retromolar triangle is the indicator for the position of the vertical outline from the crest of the ridge to the retromylohyoid undercut. This line is a vertical one—at right angles to the plane of occlusion. The lingual wall should be left long enough in the retromylohyoid area so that the undercut is preserved. It is rarely a deep undercut. The tissue in this area must not be compressed in taking the impression. (Fig. 2.)

The position of the undercut determines the depth of the denture wall at this most distal point. Anterior to the

undercut is the mylohyoid area. It adds nothing to the retention of the denture just as the buccal wall adds nothing. It is possible to trim the mylohyoid wall to the crest of the ridge without changing the denture retention.

The reason we often finish up with a shorter wall in the mylohyoid area (as distinguished from the retromylohyoid or undercut area) is to assure us that the patient's tongue may reach the buccal pouch on the opposite side of the mouth to remove food. He must be able to do this without denture movement.

POINT 4.

"COMFORT CONTROLS EFFICIENCY"

Acrylic Cuspless Posterior Teeth

Dr. John B. LaDue of Chicago writes: "In my opinion the *greatest catastrophe* that has happened to the edentulous patient was the introduction into general use of deep cusp posterior teeth. The destruction of supporting tissues as the result of locked occlusion and resistance to functional movements has been great. For more than twenty years I have been a user and advocate of cuspless posterior teeth. There are several, *all of which*

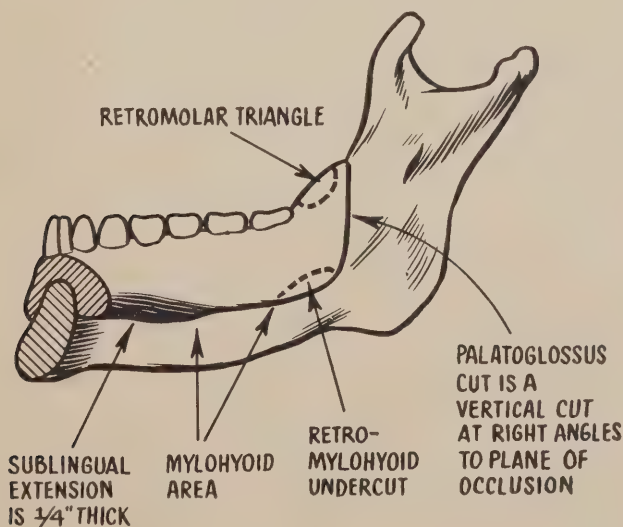


FIG. 2

are preferable to the conventional cusp tooth."

Dr. C. F. Sobolik of Omaha, Nebraska, himself edentulous, made five complete sets of dentures using the Hanau articulator, and all the accompanying technique. He used different posteriors on each set. The first and second sets were constructed with cusped teeth. The third was a nonanatomical type but not entirely flat. The fourth was a little flatter. The fifth had no cusps at all. He reports that comfort in chewing was in reverse order—5 and 4 being most comfortable, then 3 and 2 and 1. He says that flat cusped teeth are "decidedly superior in comfort." He follows this up by suggesting that cusplless teeth may not be quite as efficient as sharp teeth but "a few extra strokes in chewing mean nothing if they are all made in comfort." Thus he concludes that comfort controls efficiency.

Dr. Stanley Jordan of Philadelphia, a member of a research group, gives as his opinion that, if patients are given a choice between cusped teeth and cusplless, invariably the final choice after fair trial will be in favour of the cusplless provided other things are equal. These opinions are based on the findings of his group working on practical cases for a number of years.

Dr. Hubert Kohrman, of Danbury, Conn., believes that, "in two-thirds of all cases of full dentures the mandible will recede in 48 hours." A regrind of these cases is almost bound to eliminate all cusps in any case. No adjustment on the articulator can compensate for it in the first instance. The use of cusplless teeth will certainly not get rid of the backward shift of a mandible but they do present less opposition to this normal change and also, are more easily adjusted.

Dr. Victor Sears of Salt Lake City says, "Although meticulous adjustments of the dental articulator may be utilized to overcome to an extent the effects of inclined cuspal planes, these evil effects cannot be overcome fully by this or any other means except suitable design and correct placement of

the teeth themselves." And, "In the absence of cusp inclines, vertical closure of the lower teeth against the uppers results in vertical force on the denture foundations, the condition to be desired."

After about four years of their use, it is the opinion of your essayist that acrylic posterior teeth are an important addition to the comfort of the patient. They appear to reduce trauma. If this is true, then the preservation of the ridge is involved and thus the matter becomes an important one. As far as can be judged, ridges under acrylic teeth suffer less soreness immediately after insertion of new dentures. A year later it also appears that ridges are healthier than they would have been had porcelain posteriors been used. This is, of course, a matter of opinion based on what is hoped to be impartial observation.

Many more of our authorities believe that cusplless posteriors are greatly superior to teeth which have any cusps at all, no matter how shallow, and it also seems likely that the teeth should be made of acrylic material in an effort to conserve ridges.

POINT 5

POSITION ALL TEETH DIRECTLY OVER THE CREST OF THE RIDGE

The middle of the ridge is not necessarily the crest of the ridge, but the crest acts as the divide which separates influences unfavourable to denture retention from those favourable to it. All forces directed toward the lingual side of the ridge tend to seat the denture while all other forces act unfavourably.

In the average mouth the ridges are not directly opposite each other except in the area of the second bicuspid where they usually cross. The upper ridge is wider anteriorly and narrower posteriorly. Thus a crossbite is often inevitable when all the teeth are set over the crest of the ridge both upper and lower. Flat cusped posteriors make this easy of accomplishment and thus

guarantee favourable vertical forces in occlusion.

The width of the lower molars and second bicuspid is important. The buccal halves of these teeth should be narrowed so that all *direct* force is located lingually to the ridge crests. These buccal halves should be made subocclusal, *i.e.*, slightly out of contact in functional centric.

The second bicuspid and first molars are the only teeth which are left in contact in functional centric and then only the lingual half of them. All other teeth are kept 1 mm. out of contact. Thus the most favourable location for stabilizing both dentures is the only area in contact at the finish of the masticating stroke. The upper second molar is omitted from the upper denture (except for the patient who is going to count the teeth—in that case keep it well out of occlusion). The lower second molar is the balancing factor. It is tipped anteriorly and lingually to obtain balance against the distal border of the upper first molar. Do not employ a compensating curve. Keep all functional occlusion anterior to the lower molar slope—that part of the

lower ridge which turns up, includes the retromolar triangle and ends in the ramus. (Fig. 3.)

"The lower anterior teeth should be kept directly over the anterior ridge. In natural teeth 95% of all lower incisors are straight—directly over the ridge or 5° one way or the other." This is an orthodontia finding. The incisal edges, not merely the base of the teeth must be over the ridge. The incisal edge is where the leverage is applied. It is vital to good retention and good incisal function. The patient must bear with it as far as aesthetics is concerned. Explain it to him. The lip contour will be good.

The upper anteriors are the only teeth which may vary in their relation to the ridge; aesthetics should be allowed to control their positions but here again, the closer to the ridge, the more stability.

POINT 6

NO ANTERIOR VERTICAL OVERBITE

ANTERIOR INTERFERENCE IS FATAL. To reproduce a deep vertical overbite of anteriors in dentures amounts to giving the patient the

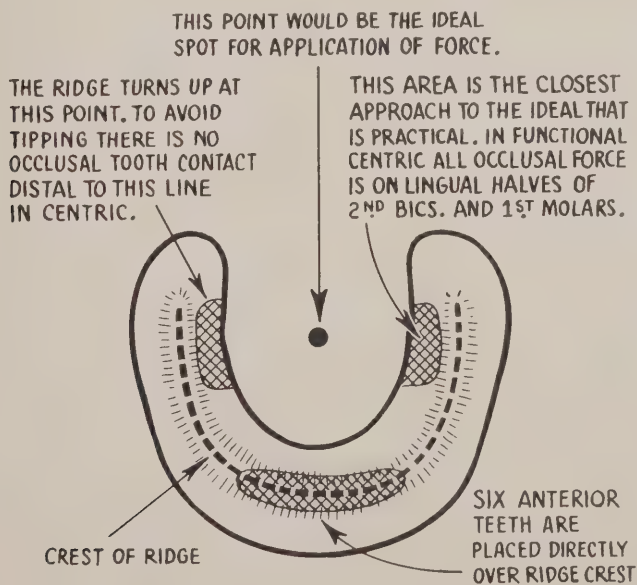


FIG. 3

handicap of a malocclusion as viewed from the standpoint of prosthetics. If full upper and lower dentures were without the 12 anteriors we would eliminate many of our difficulties. Keeping this in mind will help to ensure getting anterior clearance.

The necessity for avoiding completely any vertical overbite in the anterior 12 teeth cannot be overemphasized and yet of all the sins committed in setting up teeth, this one is by far the most common. A member of a prosthetic group in an American University to which hundreds of prosthetic cases are referred annually for correction and advice gives as his opinion that 90% of the failures are due to a missed centric and/or anterior interference.

Thus the lower anterior teeth should be set directly over the ridge—should not angle labially more than 5°—and should not contact the upper anteriors in any position at the time of insertion. They will all settle into contact. In fact, in a year's time, many of these cases have settled too well and must go back on the articulator for regrind of anteriors to get rid of anterior interference.

POINT 7

ARTICULATOR GRIND-IN

The tissue side of the completed denture should be coated with one of the correction pastes (D.P. Gel. or Coerex), inserted with moderate pressure, allowed to cool or chilled with cold water and then removed and examined for any areas requiring relief. This must be done to each of the two dentures individually. They should be inserted separately so that the occlusion, as yet unground, is not a factor in producing the areas to be eased. This procedure not only helps to avoid sore areas later but permits each denture to seat properly and fully while bite registrations are being taken for the final grind-in.

The grind-in should be done on an articulator. The only exception to this would be in the use of a tracing device with central bearing pin such as suggested by L. G. Coble of Greensboro',

N. Carolina. It is an efficient device, providing the patient is co-operative and a non-gagger. However, the articulator can be used universally. A mouth grind cannot give comparable results. The dentures will shift on the ridges and, since we are unable to see the whole occlusal surface at one time, it becomes almost impossible to get a balanced, smooth-riding final occlusion by mouth grinding.

Fill undercuts in both dentures with plasticine and pour mounting casts. Get centric and protrusive records. Use two-thirds of a sheet of pink baseplate wax for each record. Soften thoroughly on both sides, then roll and soften in flame again. With upper in mouth, place wax on lower denture, insert, get centric registration being extremely careful to have no penetration of wax. Chill and remove. Repeat for protrusive.

Seal dentures on mounting casts to preclude any movements of denture on case during grind-in.

Mount on articulator and when set, adjust condyle angles to protrusive wax record.

There are four phases to the grind-in:

(a) Correction in centric. A three-inch square of two-sided carbon paper is placed on the occlusal of the lower and the dentures are chopped together in centric. Grind off high spots until both sides contact simultaneously. Do the grinding on the lower teeth. Finish up the centric grind so that the occlusion is entirely on the lingual halves of the lower second bicuspid and first molars. No other teeth make contact in centric.

(b) Correction for right lateral. Insert carbon paper, carry upper member of articulator over to a right lateral position about 3 mm. away from centric and then slide into centric. Grind high spots until dentures slide smoothly and the pressure is greater on the left or balancing side.

(c) Correction for left lateral. Repeat grind-in for left lateral until pressure is heavier on right for balance.

(d) Carry upper member back and move forward and back. Grind anteriors and lower second molars until dentures slide smoothly and pressure is greater on second molars than on anteriors.

Finally, teeth are milled in with paste. (Kerr's abrasive paste for porcelain posteriors and Justi milling paste for acrylic posteriors.)

If flat plane posteriors have been used, grinding will have removed much of the anatomical markings on the lower posteriors. A CleveDent plug finishing bur No. 231 is right for creating new pits on the occlusals of plastic teeth.

Finally polish all occlusal areas. It is more than worth while to check the dentures with gel again after the grinding—this time both dentures go in the mouth together and the patient is allowed to occlude. Relieve denture on tissue side where it appears necessary. Thorough checkings with gel and a smooth grind-in will eliminate almost all the usual post-insertion difficulties.

POINT 8

REBASE ON THE SLIGHTEST PROVOCATION

If the lower denture, at any time, from the day of insertion and on, does not behave as well as it should, fall back on rebasing. It often helps enormously. Use Kerr's Impression Wax. Cover the tissue side of the denture with molten wax and CHILL THOROUGHLY. With upper denture in

mouth, insert chilled lower, have patient occlude lightly. In about 15 minutes the wax will have absorbed mouth heat sufficient to give a splendid impression within the denture. Chill and remove.

However, before deciding on the necessity for rebasing, the lower denture may be checked as follows:

If patient complains. . .

. . . "Denture does not stay down at all," . . . lengthen the labial wall.

. . . "Denture comes up on opening mouth," . . . shorten the buccal wall. (Further correction, if indicated, suggested below.)

. . . "Can't lick lips" or "Sore under tongue," . . . shorten sublingual extension UP. Don't narrow the wall. Reroll and polish.

. . . "Can't put tongue in buccal space to remove food," . . . shorten mylohyoid wall on opposite side. Reroll, etc.

. . . "Sore throat," . . . shorten up denture at palatoglossus border.

. . . "Denture rises on opening mouth." . . . If this persists after buccal wall has been sufficiently shortened, look to the most distal part of the denture, directly behind retromolar triangle, light mouth well and observation will show if the pull is occurring at this point. Shorten, reroll and polish well.

If the check-ups have failed to eliminate the difficulty, rebasing usually will and often without the necessity of a further grind-in.

296 Ottawa Street North

It has been stated that "dentistry has come of age." What is meant by this? Not too many years ago dentistry was considered among men who could "reason, and had eyes to see," as a mere mechanical art. But as the years have multiplied other requirements have been made upon that art, until today we have extensive scientific laboratories and, concomitantly, extensive scientific teaching. Our technical requirements have not only multiplied, but the development of our science has forced changes in that phase of the profession, until now it becomes necessary to look at both, in an endeavour to perfect their correlation. Thus will be placed before us the true picture of dentistry and from that its real philosophy will be deduced.—John E. Gurley in Jour. California State D. Assoc.

"To prevent gagging when taking intra-oral x-rays, spray side of packet next to gums with ethyl chloride."

The Application of Antiseptics and Antibiotics*

by MAJOR T. L. MARSH

Royal Canadian Dental Corps School, Ottawa, Canada

PART I

THE term antiseptics covers an ever-widening range of substances claimed to be of value against the pathogenic bacteria, viruses and moulds. They include extremely potent agents as well as those that appear to have purely psychic merits. It is not surprising that the conscientious dentist is sometimes in doubt as to which of these agents is best suited to meet his various professional requirements. To assist our dental officers in overcoming this difficulty we include in the Refresher Course at the RCDC School, a comprehensive discussion of the principles involved in the prevention, control and elimination of bacterial infections as well as instructions in the clinical uses and limitations of the agents available. This joint presentation is a condensation of some of the material used in these conferences.

The human body is composed of four primary tissues, epithelial, connective, muscle and nerve. Special functions of two of these, epithelial and connective tissue, have a direct bearing on the body's ability to resist bacterial invasion and to bring about ultimate healing of the injured parts. Clean, healthy, intact epithelial tissues and their secretions form the body's first line of defense against irritant agents gaining access to the body proper. Connective tissue produces the inflammatory reaction that is the mechanism by which irritants that have succeeded in penetrating the outer defenses of the body are localized, neutralized and ultimately disposed of and the debris of damaged tissue is removed.

A successful inflammatory response is a prerequisite to healing following injury of any type. Failure of the inflammatory responses is inevitably fol-

lowed by failure to heal and in the case of infections can result ultimately in the death of the patient. From this it is apparent that therapeutic intervention that seriously interferes with or unduly delays the restoration of the integrity of the protective epithelial tissues, of which mucosa is a part, or that inhibits or weakens the connective tissue's inflammatory response, directly reduces the body's ability to resist or overcome the damaging action of irritants among which are the agents of infection.

The significance of this concept is not always appreciated, with the result that, particularly in the treatment of infections, agents are sometimes selected solely on the basis of their ability to destroy bacterial life without regard to their collateral deleterious action on the epithelial and connective tissues. The result is that treatment is unnecessarily prolonged and final healing delayed. Thus in all cases where an antibacterial agent is being selected for application to human tissues, its bactericidal action must be balanced against its tissue destructive or irritant action before a final decision is made as to its suitability for the purpose in mind. Fortunately there are three possible actions that may be taken against pathogenic organisms:

1. They may be destroyed wherever they may be.
2. They may be diluted to a concentration that will not produce a clinical infection.
3. They may be weakened in their vital functions such as reproduction.

CLASSIFICATION OF ANTISEPTICS

Methods that directly destroy bacterial life are readily used away from

*These papers Part I and Part II were prepared jointly by Major Marsh and Major Millar for presentation before the Eastern Ontario Dental Association, September, 1950.

the living tissues, while generally speaking, the methods of dilution and weakening are most suitable for use in or on the living tissues. On this bases the rational uses of antiseptics will be considered. There are many classifications of antiseptics in the literature. We find that the one proposed by McNeal¹ in 1943 quoted in Bastedo's text best suits our purposes in discussing this subject with dental officers. McNeal classifies antiseptics into three general groups based upon the zones or areas in which they are applied:

Group 1. Disinfectants, used away from the living tissues.

Group 2. Antiseptics, used on skin and mucous membranes and superficial wounds.

Group 3. Anti-infectious agents that act after absorption into the circulation.

In addition, because of their special interest to dentists at the present time, two sub-divisions of the antiseptics will be considered. These are the fungicides and the virocidcs.

DISINFECTANTS

Now let us consider the first main division the disinfectants, which McNeal defines as chemical agents used away from the body. According to Accepted Dental Remedies, (Ed. 4, 1948) "agents that are useful in decreasing the bacterial or mould population on instruments and equipment", would come under this classification. The disinfectant agent that we are at present using for the so-called "cold sterilizing" of all except hollow or jointed and all the surgical and periodontal instruments, and which we also use for the disinfecting of operating trays and other auxiliary equipment is the quarternary ammonium compound, "Zephiran". This we use in a one in one thousand aqueous solution with one per cent sodium nitrite added as an anti-corrosive.

Let me emphasize that we do not expect to achieve sterility with this agent used in this manner. However we be-

lieve that we do secure a sufficient reduction in the effective concentration of the organisms present to prevent spread of infection through the prosthetic and operative instruments or the auxiliary equipment. When it comes to surgical equipment and practices, we feel that our goal should be a consistent aseptic technique. This will not be achieved until we adopt autoclaving as routine practice in every office where surgery is performed. Prombo and Tilden² in their comprehensive paper advocate the use of one per cent tincture of the quarternary ammonium compounds rather than the 1/1000 aqueous solution that we are using. They also state that for the "cold sterilizing" of dental instruments or equipment either a solution of five per cent saponated cresol U.S.P. or the three per cent formaldehyde solution of Tainter, Thronson, Beard and Wheatlake suggested in J.A.D.A. 31: pp 479, 1944 are superior in bactericidal action to any other suitable solutions that they tested.

They rate Metaphen Disinfecting Solution as comparable to the one per cent tincture of the quarternary ammonium compounds. The rest of the common and proprietary chemicals investigated by them in the strengths and techniques advocated by the manufacturers failed in their opinion to meet the exacting requirements of their tests. It is of interest, that iodine two and one-half per cent U.S.P. proved to be the most efficient bactericide of all the solutions tested, however, it is of no value for cold sterilizing because of the highly corrosive action of iodine on metallic instruments. Our opinion is that the work of Prombo and Tilden is more applicable to the problem of skin and wound sterilization than it is to the disinfection of operative and prosthetic instruments and equipment, in which we are not expecting to achieve the extreme standards of bactericidal efficiency required by them. For this reason we are not contemplating altering our solution or technique at the present time.

ANTISEPTICS

McNeal's second division comprises the antiseptics which he defines as "chemical agents acting on epithelial and mucous surfaces and superficial wounds". In this group we also include the agents used locally in cavity sterilization, oral surgery, periodontia and endodontia. Before discussing in detail the clinical applications of the second group, the antiseptics, let us consider some fundamental factors upon which therapeutic action on living tissue is based.

The vital cell is the basic unit in the biological processes upon which our therapeutic success depends. All microscopic life, whether that of the body, the bacteria, the viruses or the moulds, may be considered to have many characteristics in common and consequently to be subject to many of the same fundamental biological laws. One of these laws is as follows: There are only three possible reactions of any type of cell to changes in its environment, which is what in essence all therapeutic intervention is:

1. The cell may be stimulated to more vigorous action of the type peculiar to it.
2. The cell may become exhausted by overstimulation and its reactions become weaker or depressed.
3. The cell may die as a result of overstimulation. No other reactions are possible regardless of the irritant.

This is the Arndt/Shultz law upon which therapeutic measures are based. The law holds good for all therapeutic agents, physical and chemical. Pharmacological action:—is governed by a basic law which states, "Drugs ingested into the body must be soluble in the tissue fluids in order to combine with the cells contents and thereby exercise their function".³ Thus it can be seen that the use of the term a permanent antiseptic or germicidal preparation has only relative meaning in a very restricted sense, because the word permanent implies the property of insolubility, whereas the requirement to pos-

sess antiseptic or germicidal action necessitates that the material itself be soluble. A third important law is that nature will always attempt to hold her own against the supremacy of drug action. Cells always react against drug action as long as they possess vitality.

A cell, tissue or organism can exist in only one of two states, it can possess vitality, that is be alive, or it can be dead. "Health and disease are conditions that can only exist while there is life, because health and disease are nothing more or less than life under altered conditions".⁴ The aim of therapeutics is to restore the favourable conditions that result in normal cell function of the desired cells. The theoretically perfect therapy would be that which simultaneously stimulates those cells whose desired function is depressed, depresses those cells whose function is excessive and destroys or removes those whose function is undesirable. Such an ideal therapy may never be attained but it is possible to select which one of these three actions is most required at any particular time and place, and to use therapeutic measures that will produce this desired action. This is the aim of rational therapy.

CLINICAL USE OF ANTISEPTICS

Let us now consider in detail how these laws apply to the clinical use of antiseptics in the fields of oral surgery, periodontia, endodontia and cavity sterilization. Our clinical practices in all applications of antiseptics in the fields named are governed by the following principles. First — antiseptics take a considerable time to act effectively when they are applied to human tissues; much, much longer than they are ordinarily present. The dabbing of skin antiseptics on mucous membrane just prior to the insertion of the hypodermic needle comes as near to being a purely psychic treatment as anything in dentistry. Many of the outstanding general surgeons on this continent are in agreement that the use of skin antiseptics for pre-operative preparation is

not only of little or no value but in some cases seriously complicates the ultimate healing of the wound.

Bastedo, who among other things was President of the United States Pharmacopial Convention from 1930-1940 in his text referred to previously, quotes Sulzburger 1944 as follows, "Living skin or mucous membranes, or excised skin or mucous membranes, cannot be completely freed from micro-organisms by any form of application which does not destroy or seriously damage the tissues. Thus the practice of applying a germicidal solution for a very limited time creates a false sense of security". The principle concisely is this. The destruction of bacteria in or about wounds by locally applied chemical agents can only be effectively achieved at the expense of tissue destruction or at least with serious interference with the normal function of the cells involved upon which ultimate healing depends. In this regard, it is important to remember that sterile dead tissue and bactericidal chemicals of themselves can stimulate an inflammatory response with the pain and pus production that we are trying to avoid or relieve by our treatments.

Referring to current practices in general surgery, the use of bactericidal pastes, powders, solutions and dressings in wounds is decreasing and is being replaced by therapy based on the principles which we are presenting.

Another principle upon which we base our clinical practice is as follows: We believe that mechanical cleansing with non-irritating and consequently ineffective bactericidal irrigations and washes is the the safest method of effectively reducing bacterial concentrations in the dental field. Such washes remove not only micro-organisms by the billions but at the same time dilute and remove a substantial amount of the toxic products and necrotic material that aggravate the damaged tissue and delay recovery. This they accomplish with minimal interference with the vitality and normal function of the involved and adjacent

epithelial and connective tissues upon which anti-infective action' and ultimate healing depends. For superficial wounds and lesions we use a solution composed of one ounce of hydrogen peroxide with fifteen grains of sodium bicarbonate, dissolved in four or five ounces of warm water. Where there is danger of gas trapping under flaps or in deep or torturous wounds sterile normal saline is used instead. Investigation of such antiseptics as solutions of hydrogen peroxide, and sodium perborate show them to be rather weak, slow acting bactericides when applied to tissue but fairly effective as mechanical cleansers. As such they have their place in dental therapy.

Phenol and creosote compounds, silver-nitrate, zinc-chloride and formaldehyde solutions have very little if any place in our clinical practice. They are unselective in action and as such, are destroyers of tissues as are also the strong alkalies and acids advocated by some in the treatment of carious teeth, infected root canals, periodontal pockets, and aphthous ulcers. We believe that copious washing, mechanical cleansing, curettage and the surgical knife offer more controllable means of getting rid of undesirable irritants than do effectively strong chemical agents. These methods also leave much more favourable conditions for such healing as is possible to proceed. In periodontia for example, surgical gingivectomy sacrifices no more tissue than is ultimately lost by the time consuming methods of conservative treatment. In fact if histiological research is to be accepted the total tissue destruction and the healing time both tend to be less following surgical gingivectomy than when caustic drugs, the electric cautery or coagulating techniques are used.^{5,6}

In endodontia, we are carrying out a two year follow-up of a number of cases in which we have used no effective bactericidal agents applied locally but have depended upon the principles we are presenting to control the infection and accomplish healing.⁷ So far

our results indicate that the rational application of these principles achieves the desired result.

Because of its long standing popularity in the dental profession, eugenol or oil of cloves deserves special mention. Eugenol belongs to the phenol group of antiseptics already referred to. It is one of the less effective bactericides of the group but it does possess some value as a bacteriostat. Its most rational uses are as an analgesic to gain temporary relief from pain or as a low grade irritant to promote a desired inflammatory reaction. We believe that eugenol has many of the faults of the phenol group tempered somewhat by its extremely low solubility in the intercellular fluids. Certainly if histological research is to be trusted, eugenol when used in a capping for an exposed pulp, produces a permanent condition of chronic inflammation.⁸ This irritated condition may be masked for years by eugenol's analgesic action but often ends in ultimate degeneration and death of the tissues.

Research may ultimately produce a pulp-capping that will permit true healing to take place. Certainly the highly basic layer produced by the application of calcium hydroxide to an exposed pulp seems to be better tolerated by the connective tissue cells of the pulp than any of the materials previously tried.⁹ The method which appears to have originated in Germany and became popular in Switzerland¹⁰ some time before it gained recognition on this continent seems to be effective in teeth with wide open apices such as occur in children and adolescents.

However, as the big obstacle to successful healing of exposed adult pulps is the lack of a collateral blood supply to support the necessary inflammatory process upon which healing depends, there may be no final solution to the problem of damaged adult pulps except that provided by surgical removal either as pulp extirpation or extraction.

In accord with the principles that we are presenting, we do not believe that

it is possible to sterilize cavity preparations with any agent that may not at the same time endanger the pulp on which the vitality of the tooth depends. Therefore at the RCDC School we advocate the use of a mild mechanical cleanser such as hydrogen peroxide rather than phenol, alcohol, or similar irritants for pre-filling preparation.

We believe that inadequate cavity preparation, failure to obtain and maintain a dry field by the use of such aids as the rubber dam and improper preparation or manipulation of the filling materials are a greater cause of recurrent caries under restorations than the microorganisms that will still be present following the technique that we recommended. Our opinion in this regard is shared by many outstanding clinical dentists.

We still carry antiseptics on our stores list. We are however using these less and less in and about the mouth. Generally we feel that antiseptics as a class are losing ground to the principles of dilution with non-irritating solutions and mechanical cleansing by surgical or other means backed up where indicated by the anti-infectious agents. The later comprise the third division of McNeal's classification.

FUNGICIDES AND VIROCIDES

Before passing to the important third main group, the anti-infectives, we will briefly consider the two minor groups of fungicides and virocidcs. There has been some research and much speculation recently on the part played by fungus infections in periodontal disease. So far research to develop fungicidal agents that are effective under the conditions that they must be applied to human tissues has been most disappointing.¹¹ The ability of some of the fungi type organisms to form capsule protected, highly resistant spores deep within the infected tissue makes it necessary at present to use for their complete elimination extremely potent chemical agents that

are themselves gross destroyers of tissue.

If fungus type infection proves to be a factor in periodontal diseases, it appears at present, that we will be farther from, rather than nearer to a solution of the problem for some time to come.

Regarding virocidcs, we know of no agent at present that is selective enough to destroy virus in oral tissue infections without at the same time

injuring the tissue to which it is applied.

As we see no advantage in adding a chemical injury to the tissue already injured by the virus infection, we prefer to treat these lesions by copious washing to dilute the irritants and administer local and systemic sedatives for the pain. My colleague, Major Millar, will now discuss with you as Part II of our presentation, the important third division, the Anti-infectives.

The Application of Antiseptics and Antibiotics*

by MAJOR I. A. L. MILLAR

Royal Canadian Dental Corps School, Ottawa, Canada

PART II

MY COLLEAGUE has discussed with you the limitations of antiseptic therapy and has presented the principles on which ideal rational therapies depend. In the second part of this joint presentation I will present therapies which we believe closely approach this ideal.

ANTI-INFECTIVES

The third main division of McNeal's classification is the anti-infectives which includes the sulphonamides and the antibiotic, agents which act after absorption. The work of leading pathologists make it clear that two main mechanisms are involved in the protection of the human body from infection:

1. The first of these is the protective action of intact, healthy skin and mucous membrane with their secretions.
2. The second is a vigorous and successful inflammatory response by its connective tissue elements.

The basis of rational therapy is the assistance that can be given to maintain these two mechanisms. Anti-infective therapy rids an area of bacteria by a subtle interference with the metabolic cycle of an organism, exert-

ing primarily a bacteriostatic rather than a bactericidal action, with a minimum of interference to the two main protective mechanisms just mentioned. On the other hand, antiseptic therapy of the phenol, silver nitrate, chamophenique and the formocresol caustic type can only rid an area of bacteria, regardless of the destruction of epithelial and connective tissue elements making up the two main protective mechanisms.

In line with the newer concepts on anti-infective therapy we have stopped applying the sulphonamides locally at the RCDC School; briefly and mainly because these agents may cake in the wound and act as a foreign body due to their insolubility. If the sodium salts of the various sulphonamides are used, to gain increased solubility, we face the danger of a caustic action because of their high pH. Again the maintenance of sterility of the sulphonamide powder or tablets is difficult, and also they are highly toxic. The systemic use of the sulphonamides was not entertained because of the many contra-indications against its use, in adequate dosage, for ambulatory patients.

From the foregoing brief statements

*These papers Part I and Part II were prepared jointly by Major Marsh and Major Millar for presentation before the Eastern Ontario Dental Association, September, 1950.

it might be inferred that we feel sulphonamide therapy has no place in dentistry. There are, however, those cases in which sulphonamide therapy is desirable. We hospitalize such cases to assure adequate protection for the patient during the systemic administration of these drugs in adequate dosage. We feel the antibiotics, which are of more recent discovery, can largely replace the sulphonamides.

CHEMOTHERAPEUTIC AGENTS

The antibiotics are chemotherapeutic compounds. "An ideal chemotherapeutic compound is one capable of either selectively or specifically injuring or destroying the agents of disease in the body, usually without toxic effects on the host. Of all the chemotherapeutic agents known at the present time, penicillin comes nearest to this ideal."¹²

Penicillin has been used intramuscularly at the RCDC School since Sept. 1949 and this discussion of the antibiotics will be based on the application we are making of that agent. It may however, be of interest to you to know that we have under trial, for local application, a troche containing bacitracin and a lozenge containing tyrothricin and gramacidin with a topical anaesthetic added. The present clinical indications are that these agents are of no direct value against necrotizing gingivitis, but they may be a useful adjunct in the treatment of painful oral conditions to reduce the danger of secondary infection and relieve pain. We feel this applies to their postoperative use as well but again only to reduce the danger of secondary infection.

In our consideration of using penicillin at the RCDC School we embraced the following two therapeutic principles:

1. Penicillin therapy is not a substitute for surgery nor adequate post-operative care.
2. The causative organisms of most

oral infections are penicillin sensitive.

Although penicillin therapy will probably aid in the final outcome of most oral infections, it will not substitute for the necessary surgery. Localizations of pus must have drainage established, and necrotic tissue should be cleansed from an area. Case reports are appearing in the literature where the early institution of penicillin therapy has apparently obviated the necessity for surgery,^{13,14} like cases of which previously always required surgical intervention. I am referring to cases of osteomyelitis and cellulitis. I think we can go farther, and say that the early use of penicillin may remove the danger of any osteomyelitis or cellulitis of dental origin. This fits well into the second principle we embraced: that most oral infections are caused by bacteria sensitive to penicillin. Of course, accepting that principle as a therapeutic fact made the use of penicillin a must for indicated cases. Penicillin is the most clinically acceptable effective agent known against gram positive organisms and the best available agent for all staphylococcus organisms. It is however ineffective against most of the gram negative bacilli, but the work of Ackman and Smith¹⁵ indicates that gram negative pathogens are not the most frequent organisms found in traumatic and surgical wounds. The many reports on the effectiveness of penicillin therapy in oral infections seemed to justify our acceptance of the principle that most oral infections are caused by bacteria sensitive to penicillin.

RULES FOR PENICILLIN THERAPY

In our use of penicillin at the RCDC School we have adhered in principle to the following rules for penicillin therapy based upon Northrop's article in the *Journal of Oral Surgery*, Jan. 1949:¹⁶

1. Use when you have or reasonably can anticipate that you have a penicillin sensitive organism. A test to determine if the organism

is penicillin sensitive, or their degree of sensitivity, has value but as most pathogenic organisms in the mouth are penicillin sensitive, we do not routinely carry out such a test. It should be noted that the common cold or canker sores are not caused by penicillin sensitive organisms and penicillin should be used only to prevent or control secondary infection in these conditions.

2. In acute infections, start penicillin therapy early. As was mentioned previously the early use of penicillin may obviate surgical intervention in cases of osteomyelitis and cellulitis.
3. The dose must be such that the concentration of penicillin in the infected area is sufficient to destroy the bacteria. Penicillin penetrates all tissues of the body where the blood supply is adequate. Thus in cases of osteomyelitis where circulation may be seriously interfered with because of vascular thrombosis and stripping of the periostium, dosage should be massive.
4. Treatment should be continued until the infection is overcome. In very acute infections, penicillin has a masking effect on the clinical picture which may give the impression that the infection is controlled. We administer penicillin a minimum of three days in all cases in which it is used and of course it may be extended over weeks. Although it is still debatable whether penicillin resistant organisms can be produced, the possibility is too serious to use inadequate dosage.

We administer penicillin intramuscularly only. The topical application or using it as an irrigating fluid has bactericidal value, but we feel this usually unnecessary in the dental field if it is also being administered intramuscularly. The oral administration is least reliable because of individual variations in absorption and excretion

(vomiting) and should only be used in the less serious infections, in which case the dose is approximately five times that of the intramuscular which considerably increases the cost of administration. We think that if we consider penicillin advantageous or necessary in a given case then administer it in the most reliable and the most economic way—intramuscularly.

The intramuscular injection is a simple and safe procedure when compared with the difficult injection for mandibular block anaesthesia. We have been using a procaine-penicillin G in peanut oil containing 300,000 units of slowly released penicillin per c.c. The injection site of choice for all penicillin preparations is the buttock—the upper outer quadrant of the gluteus maximus muscle. Unlike the muscle of mastication, this muscle is sufficiently large to take the one c.c. injection with a negligible amount of after soreness. The aqueous suspension preparations of procaine-penicillin G may however be injected in the arm—in the upper medial line of the deltoid muscle, except in very thin patients. A Leur type of syringe with a twenty gauge one and one-half inch needle is inserted perpendicular to the muscle at the cleansed injection site. Then aspirate before making the injection to guard against accidental injection into a blood vessel. We have found a nineteen gauge needle makes it easier to load the syringe from the vial and later changing to a twenty gauge needle for the injection.

TOXIC REACTIONS OF PENICILLIN

Although penicillin has a very low toxicity the following toxic reactions have been reported:

1. Therapeutic shock: occurs only in antileptic treatment.
2. Allergies to the mould itself: rare and the figure of three to five per cent is considered to be largely due to impurities in the earlier penicillin preparations. These allergic responses are urticaria, contact dermatitis, rash, herpes

s i m p l e x , and angioneurotic oedema.

3. Central nervous system effects: from spinal injections only.
4. Uterine reactions: causes uterine contractions and may institute menstruation or abortion during pregnancy.
5. Tenderness at site of injection: the amount of fluid or size of the injection is the deciding factor.

In the manner in which penicillin is used in dentistry the above reactions are rarely encountered. Anti-histamine drugs control allergic reactions and patients who have had allergic responses to penicillin have been re-penicillinized by the administration of anti-histamine drugs. We have pyribenzamine and benadryl available at the School. The dosage is fifty to one hundred milligrams three or more times a day as required for adults. We also have adrenalin chloride 1/1000 solution to combat shock which may occur from the accidental injection into a blood vessel. The dose is one c.c. intramuscularly.

PROPHYLACTIC USE OF PENICILLIN

The prophylactic use of penicillin is in the opinion of many frequently indicated in dentistry. Bacteria are forced into the blood stream more frequently than we have realized following extractions, periodonal treatment and surgical procedures. This bacteremia is transient as the organisms are quickly destroyed in the blood stream and is of little significance in normal individuals, but patients giving a history of rheumatic fever, or those in poor health, it may be of great significance. Eighty per cent of cases of subacute bacterial endocarditis give a previous history of rheumatic fever. *Strept viridans* a normally non-pathogenic inhabitant of the mouth, oral lesions and intestinal tract is the organism most commonly found in the blood stream in a transient bacteremia. It is the causative organism of subacute bacterial endocarditis and it is penicillin sensitive. Dr. D. P.

White, in his book, "Heart Diseases", states: "Dental extractions are most commonly followed by subacute bacterial endocarditis than any other recognized events".

We consider that the following conditions indicate the prophylactic use of penicillin:

1. Twenty-four hours preoperatively to all patients giving a history of rheumatic fever, existing valvular heart disease or in poor physical health.
2. Preoperatively for impacted third molars with a recent history of pericoronitis.
3. When incising and draining an acute abscess a fortified penicillin preparation containing 300,000 units of slowly released penicillin and 100,000 units of immediately released penicillin will give a rapid and prolonged therapeutic blood level. Treatment may then be carried on until the infection is controlled.

We have found that when penicillin is used post-operatively as in the treatment of dry sockets, the pain and soreness are largely alleviated within twelve hours. We have also found that penicillin does spectacularly alleviate the acute symptoms of necrotizing gingivitis allowing other necessary treatment to follow in a minimum of time and with a minimum of discomfort. These early symptomatic responses would seem to indicate the rapidity with which the bacterial irritants are reduced permitting the inflammatory process to proceed to a successful conclusion.

SUMMARY

To summarize, we of the RCDC School believe:

1. That selected disinfectants can be used to reduce the risk of infections from certain instruments and equipment.
2. We believe that the generous use of washes to dilute and to remove bacteria and other tissue irritants is of greater value than the use

of antiseptics on superficial mucous membrane and wounds.

3. We believe that strict adherence to sound surgical principles continues to be necessary.
4. We believe that most serious infections in the dental field can be prevented or eliminated by penicillin administered as early as possible, in adequate dosage and preferably by the intramuscular route.
5. Lastly, we believe that our professional status obliges us to protect our patients by being prepared to prescribe and administer the anti-infective agents.

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The artist can paint for hours without being aware of the clock; the surgeon can perform a four-hour operation of the greatest intricacy, at every stage of which he has to make decisions of prime importance, yet he feels no fatigue. But let the artist trudge around a picture gallery, or the surgeon try to watch a colleague for four hours, and both of them will be calling for a Guinness. The mind can work thus continually without tiring, and do so day after day, but it is not doing its best work. It is making decisions without storing them, collecting pictures without hanging them in the galleries, laying up a board of valuables which become treasures only when they are sorted out in relation to each other and properly displayed.

Constant use of the mind does not lead to exhaustion any more than constant idleness leads to refreshment. What exhausts is effort rather than use. the performance of tasks that are distasteful or that are beyond easy fulfilment, the fear of failure because the training is inadequate, the intelligence insufficient, the experience too small and too recent. Even so, an internal-combustion engine suffers little harm when it is run for long hours within its capacity or for short bursts at full speed, but when it is constantly set to do the work of a larger engine by operating at full load for hours on end it very soon gives out.—Sir Heneage Ogilvie, K.B.E., M.Ch., F.R.C.S. in Br. Med. Jour. April 16, 1949.

Our neighbour's child doesn't go for the urge most of the children have to be fighting airmen. He's a little old-fashioned. He still dreams of being a pirate some day. He described to us his mental picture of himself boarding a merchant vessel by climbing over the side with a cutlass between his teeth.

"That's kind of out of date, isn't it?" we suggested. "That cutlass-in-the-teeth stuff went out long ago."

He thought for a moment, "Well," he said, "I wouldn't put it back in my mouth after I'd killed somebody till I'd sterilized it in boiling water."—N.W. Dentistry.

Unusual Cases

Recurring, Impacted, Supplemental, Mandibular Bicuspid

Number one in a series

by DR. GEORGE A. MORGAN, Toronto, Ontario

WITH the increasing tendency to take complete dental roentgenograms, as a part of oral examination, it has been found that supernumerary or supplemental bicuspid are more common than former estimates would indicate. This can be accounted for by the fact that 75% of supernumerary or supplemental bicuspid are impacted and generally unerupted. Their incidence is about 1 in 10,000 people. Listed in the order of frequency of occurrence of supernumerary or supplemental teeth, are incisors, molars, bicuspid, cuspids and laterals. Some of the complications associated with them are delayed eruption, non-eruption, separation and malposition of the permanent teeth. Removal of these teeth at an early age may be a means of avoiding the majority of these com-

plications. A characteristic of mandibular, supernumerary or supplemental bicuspid is a marked tendency to the formation of cysts.

This case as reported, was that of an orthodontic refer, age 11, September 1944. We were asked to remove the mandibular, left, permanent, suppressed, first bicuspid and the two mandibular, left, impacted, supplemental bicuspid, as illustrated in figure 1. Also the mandibular, right, permanent, first bicuspid and the mandibular, right, impacted, supplemental bicuspid, as illustrated in figure 2.

Figures 3 and 4 are immediate post-operative photographs illustrating the complete removal of permanent and supplemental bicuspid.

Figures 5 and 6 are photographs of the mandibular right and left bicuspid



FIGURE 1

Left Mandible, Pre-operative, 1944



FIGURE 2

Right Mandible, Pre-operative 1944



FIGURE 3
Left Mandible, Post-operative, 1944

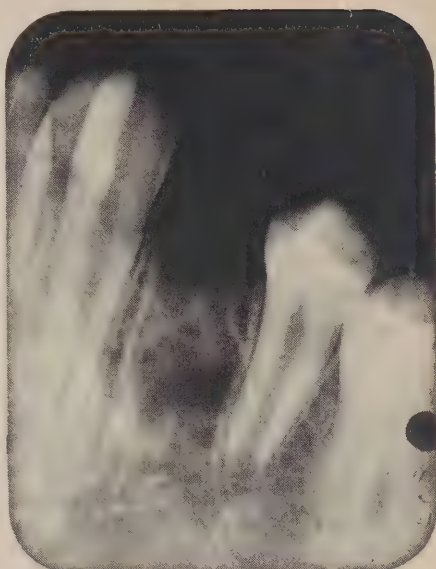


FIGURE 4
Right Mandible, Post-operative, 1944

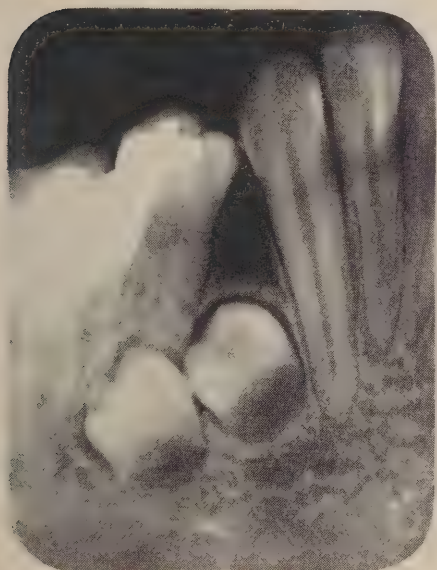


FIGURE 5
Left Mandible, Pre-operative, 1949



FIGURE 6
Right Mandible, Pre-operative, 1949

region, taken five years after the removal of the first set of supplemental bicuspid. It will be noted that on the left side where they were originally

two supplemental, impacted bicuspid there has now recurred two additional impacted, supplemental bicuspid and on the right side where there was

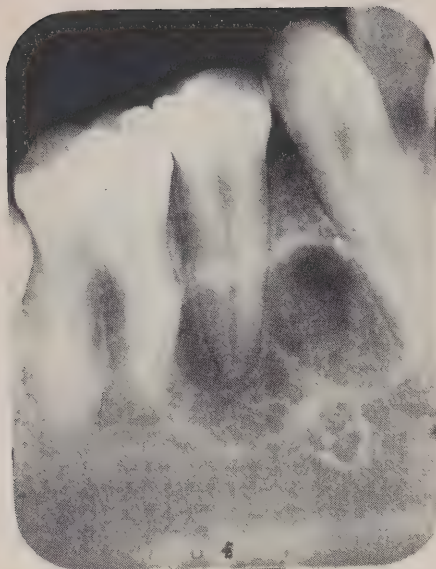


FIGURE 7
Left Mandible, Post-operative, 1949

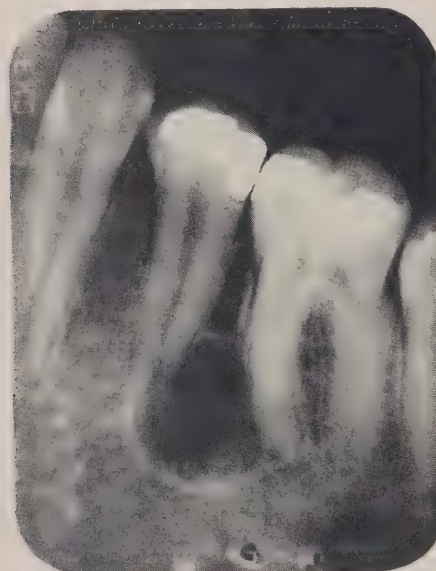


FIGURE 8
Right Mandible, Post-operative, 1949

formerly one impacted, supplemental bicuspid, there has now recurred an additional impacted, supplemental bicuspid.



FIGURE 9
Left Maxillary, Pre-operative, 1949

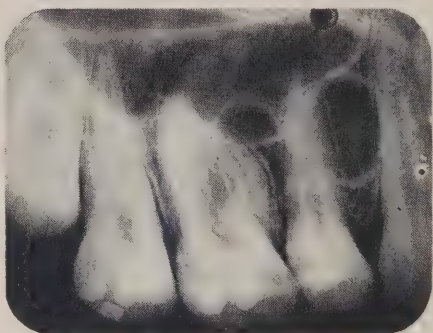


FIGURE 10
Left Maxillary, Post-operative, 1949

Figures 7 and 8 are immediate post-operative photographs illustrating complete removal of the mandibular left and right, impacted, supplemental bicuspid.

Figure 9 illustrates the occurrence of two maxillary, left, supplemental bicuspid, not present in 1944.

Figure 10 is the immediate post-operative photograph illustrating the removal of the two maxillary, left, supplemental bicuspid.

COMMENT:

This case is most unusual in that three mandibular, impacted, supplemental bicuspid removed in September, 1944, for a girl, age 11, have recurred as illustrated in figures 5 and 6, September 1949.

In addition, two maxillary, left impacted, supplemental bicuspid, not

present at age 11, September 1944, have appeared in September 1949.

It is interesting to note a comparison in size and shape of the first group of bicuspid visualized in 1944 and of those in the second group visualized in 1949.

This case represents a total of eight impacted, supplemental bicuspid visualized and removed over a span of eight years.

The author would welcome any comments on this case.

Résumé

Ce cas est assez particulier; trois prémolaires surnuméraires incluses dans la mandibule ont été extraites, en septembre 1944, chez une fillette de onze ans; ces dents sont réapparues en septembre 1949, comme le montrent les illustrations 5 et 6.

De plus, deux prémolaires surnuméraires incluses dans le maxillaire supérieur, à gauche, non présentes en septembre 1944, sont apparues en septembre 1949.

Il est intéressant de noter une différence dans la grosseur et la forme du premier groupe de prémolaires, aperçues en 1944, et celui du second groupe, aperçu en 1949.

Ce cas représente un total de huit dents incluses surnuméraires découvertes et extraites dans une période de huit ans.

L'auteur recevra avec plaisir tout commentaire au sujet de ce cas.

The Contribution Made by American Aid to France, Inc., to the Development of Dental Hygienists for Service in the Schools (1948-1950)

by JACQUES FOURE, D.F.M.P., D.D.S., and Jacqueline Huot, R.H.D., Paris, France

Reviewed by Gloria Jacklyn, R.D.H., B.S., New York, N.Y.

AMERICAN Aid to France, Inc. has contributed during the last two years or more to the development of one of the aspects of dental hygiene in the schools of France.

In 1946, a dental clinic was equipped and set up in Coutances. A plan was devised with the help of the local dentists to give dental treatment to school children as part of a program of preventive dentistry. The dentists, however, could give no more time than two mornings per week to the clinic and therefore, to utilize the clinic to the fullest extent, a dental hygienist, Miss Jacqueline Huot, was employed. Miss Huot, a graduate of Courses for Dental Hygienists, Columbia University, spoke French fluently and was at the time, in charge of a dental hygiene program in Poughkeepsie, New York.

The program set up in Coutances was as follows: after dental inspections, notices were sent to the parents whose children needed dental care, requesting their preference either to

bring their child to their private dentist for treatment or to have the child treated at the dental clinic. The children who were treated at the clinic received a dental prophylaxis by Miss Huot upon their second visit to the clinic. This served as an introduction to the contact of instruments in the mouth. Thus prepared, the children returned for the third time to receive dental treatment from the dentist.

In a few months, 582 children had been examined and reached in class by means of dental hygiene talks; 56 per cent of this number had received dental prophylaxis; and 24 per cent of those showing caries had been treated in the clinic.

These results were brought to the attention of the Inspector General of School Hygiene who realized the advantage of having dental auxiliaries specialized in dental hygiene, for the organization of school dental examinations as prescribed by an ordinance of March 3, 1947. He requested that a

group of young French women be taught a sufficient background to be able to assist the dentists in inspections, and to be able to carry on dental hygiene education programs. The full title of these girls was to be *adjointes d'Hygiene Solaire* (translated school health secretary-assistants).

The following summer, a group of nine girls were trained at Coutances. The course program was a condensed version of dental hygiene courses as given in the United States. A number of dentists, physicians, and professors gave their assistance, giving generously of their time and of their knowledge in courses on dental anatomy, pathology, histology, and bacteriology. Courses on nutrition, child psychology, general anatomy and physiology were given by specialists, who came from Caen and from Paris. When the schools opened in October, the American Aid Dental Clinic resumed its normal activities; in this way providing the nine young women with practical experience in the operation of a dental clinic, in school dental inspection, in dental prophylaxis, in dental assisting and in compiling statistics. Each one had several opportunities to make short talks to the children on dental hygiene subjects. All of this took place under the supervision of the dentists who were teaching, as well as of Miss Huot, who maintained liaison between the various lecturers and the organization, and also oriented the teaching that was given.

Upon completion of the course, the girls assumed their respective posts. Miss Huot had the responsibility of spending whatever time would be necessary with each of the girls and helping in the organization of the new dental program. This included meeting the dentists, physicians, school authorities, and parents. Miss Huot's presence in an advisory capacity gave the girls more confidence, and together, they initiated a working program.

The results of this first group were so satisfying that a request was received to train a larger group. The second training program was given at

the dental school of the University of Lille. Sixteen students completed the course. Dental prophylaxis was not included in the second training course because of opposition of certain groups of dentists.

Most of the girls work both in the health centres, where the dental inspections usually take place and in the schools, where they teach the children the importance of dental examinations and early care. Almost all of the girls are in agreement that the majority of dentists and school teachers are co-operative and helpful in advancing dental health. On the other hand, the girls have found in the parents a complete lack of interest. An initial and essential step is to enlighten the parents upon the importance of dental health. Of course, it is true that many families are unable to take proper care of their children's teeth, not for lack of interest, but because they cannot afford treatment unless it is provided for them by a dental clinic.

In 1947, a governmental decree in France made it obligatory that all school children aged six be examined by a licensed dentist. Only with the assistance of a greatly augmented staff of dental auxiliaries will the number of dental examinations be increased and carried to hitherto unorganized areas. At the same time the children will be taught the significance of dental examinations and the importance of early and continuous care of their teeth.

The more far-seeing and progressive members of the dental profession would like to see the *adjointes* accorded the right to clean and polish the teeth of school children as a significant part of their educational program. Where a few of the girls had the opportunity of giving dental prophylaxis for a brief time, the supervising dentists have agreed on the following:

- (1) That they themselves do not usually clean children's teeth, and that their practice was in no way diminished by the *adjointes*'s doing so.
- (2) That this action resulted in a

marked increase of child patients in their practices, which they attributed directly to the personal, educational influence exercised by the adjointe while cleaning the children's teeth.

- (3) That in their practice, the behaviour of these children, already familiarized by the adjointe, with the sound of the dental engine and the contact of instruments, was much better than that of children not thus conditioned. Also, the cleaned mouths were an advantage in their work.

There are still, however, many dentists who fear that by permitting the girls to clean the teeth of the school

children, their practices may suffer, and that, eventually, this might lead to a competitive, illegal practice. Suffice it to say, that if the practice of the adjointe is properly defined and limited by the dental profession under whose guidance she works, and if this definition is incorporated into the law governing her right to exercise, any attempt of an adjointe to go beyond the limits of her license could jeopardize her right to practise.

It is hoped that when the adjointes have proven their worth, and have won the confidence of the dentists, that the latter will eventually grant them the right to take an active and a more personal part in the dental profession.

ANNOUNCEMENTS

THE ANNUAL CONVENTION OF THE MARITIME DENTAL ASSOCIATIONS under the auspices of the Dental Association of Prince Edward Island, will be held at The Charlottetown Hotel, June 27-29, 1951, Charlottetown, P.E.I.

THE BIENNIAL CONVENTION OF THE WESTERN CANADA DENTAL SOCIETY will be held in Winnipeg, Manitoba, June 4-7, 1951.

ALPHA OMEGA FRATERNITY is holding an open meeting on March 27 at 8:00 p.m. in the Dental Building, 230 College Street, Toronto.

The speaker on this occasion will be Bernard G. Sarnat M.D., D.D.S., Professor of Oral and Maxillofacial Surgery, University of Illinois. The subject is "Oral and Facial Cancer."

ONTARIO DENTAL ASSOCIATION SPRING MEETING. May 14, 15, 16, 17, 1951. Royal York Hotel, Toronto.

THE 1951 ANNUAL A.D.A. MEETING will be held in Washington, D.C., October 15-18.

The next **ANNUAL MEETING OF THE AMERICAN DENTAL SOCIETY OF EUROPE** will be held in Lausanne, August 1-4.

Any information may be obtained from the Honorary Secretary, F. Douglas Derrick, 140 Park Lane, London, W.I.

THE SECOND INTERNATIONAL GERONTOLOGICAL CONGRESS will be held in St. Louis, Missouri, September 9-14, 1951. Gerontological is interpreted to mean knowledge of ageing from every aspect and the practical utilization of such knowledge in medical treatment (geriatrics), social and economic adjustments and so on.

The program is divided into four sections, namely: Biology and Medicine; Sociology, Psychology, Education, Religion; Economics and Welfare; Medical Services, Hygiene and Housing.

The chief expense will be for travel of delegates from abroad, about \$60,000; and for running the Congress about \$40,000. It is expected to obtain contributions from philanthropic foundations, commercial organizations and private citizens. An attendance fee of \$10.00 will be charged.



The Presidents of these two associations extend a cordial invitation to be present at the Convention of the Canadian Dental Association being held in co-operation with the Eastern Ontario Dental Association at the Chateau Laurier Hotel in Ottawa, September 23, 24, 25 and 26.

This year the Canadian Dental Association is celebrating its 49th Anniversary in our National Capital.



Dr. R. P. Lowery

President
Canadian Dental Association



Dr. Paul Côté

President
Eastern Ontario Dental Association

The Forum

THE PROBLEM OF NUTRITION IN ORAL SURGERY

Editorial in Jour. of Oral Surgery, Oct. 1950

The problem of nutrition in cases of facial fractures and in other cases requiring immobilization of the jaws has long been recognized by oral surgeons. But the problem of nutrition is not limited to these cases. Fortunately, most patients seen for office treatment are well nourished, and nutrition is not a factor in the aetiology of the disease.

It is presumptuous to assume, however, that all patients are in an adequate state of nutrition. The highly refined American diet in many instances does not provide the necessary elements of a balanced nutritional state. Many patients well able to afford a balanced diet are literally starving for certain good elements.

Malnutrition may result in diseased states of the oral tissues, in lack of response to accepted therapeutic measures, or in the delay or absolute failure of the processes of repair and recovery. The persistent dry socket, the delayed union or non-union of fractures and the development of secondary infections following surgical procedures may all result from lack of the nutri-

tional elements essential to the process of repair.

In cases requiring extensive surgical procedures the patient should be in the best possible nutritional state before surgical procedures are undertaken.

The postoperative diet should be high in protein, vitamin and mineral content. Calcium, phosphorus and iron are essential to wound healing, as are vitamin A, nicotinic acid and riboflavin.

A liquid diet, necessary in cases requiring intermaxillary fixation, can become monotonous unless it is prepared with care and imagination. A liquid diet consists mainly of dairy products, pureed vegetables and fruit juices. Protein can be provided by using meat broth or soup and by using eggs in liquid form or in custard.

The oral surgeon should become more conscious of the necessary elements for the maintenance of adequate nutrition, and should advise and supervise patients in this important part of their therapy.

—Reed O. Dingman.

CIGARETTES AND CANCER

Condensed from Editorial in Br. Med. Jour. Sept. 30, 1950

The steady increase in the recorded deaths from cancer of the lung is startling. In 1922 there were 612 deaths from this cause in England and Wales, compared with 9,287 in 1947—a fifteen-fold increase. The trend is the same in all countries where Western civiliza-

tion is predominant, except apparently in Iceland. Dungal points out that smoking, and particularly cigarette smoking, has only recently become popular in Iceland on a scale at all resembling that in most European countries. There can be little doubt

that the incidence of cancer of the lung is really increasing, and tarred roads, exhaust gases, common respiratory infections, certain types of occupation, and tobacco smoking have all been blamed for the greater frequency of the disease. Of these possible causes smoking seems the most likely, for the rise in the death rate from cancer of the lung has followed a great increase in the consumption of tobacco and cigarettes. Several groups of workers have undertaken investigations to prove or disprove the suggested association. It is not easy to adopt an unbiased attitude to the concept that smoking may cause cancer: we are all either smokers or non-smokers, and each group may regard the other as prejudiced. In this country Dr. Richard Doll and Professor A. Bradford Hill have carried out a meticulously conducted inquiry, the results of which have very serious implications, for they conclude that "smoking is a factor, and an important factor, in the production of carcinoma of the lung."

One unexpected result of the investigation was that inhaling cigarette smoke was not distinctly associated

with lung cancer. In fact, patients with this disease inhaled slightly less often than the controls. Wynder and Graham found that the proportion of men who smoked cigarettes as opposed to pipes among the patients with bronchogenic carcinoma was greater than that among the general hospital population of the same age-group, and they concluded that "the greater practice of inhalation among cigarette smokers is believed to be a factor in the increased incidence of the disease." Doll and Bradford Hill also found that pipe smoking was less closely related to cancer of the lung than cigarette smoking.

Apart from the carcinogens which may be formed as a result of the burning of tobacco, it is also possible, as Doll and Bradford Hill point out, that arsenic in the insecticides with which the tobacco plants are sprayed could act as a carcinogen.

There is no evidence about the degree of risk which cigarette smokers take, but it does apparently increase in direct proportion to the amount smoked daily and to the total duration of the habit.

THE CIGARETTE

Condensed from Editorial in N.Y. Jour. of D. November 1950

The leading article in the May 27, 1950 issue of *The Journal of the American Medical Association*, entitled "Tobacco Smoking as a Possible Aetiological Factor in Bronchiogenic Carcinoma: A Study of Six Hundred and Eighty-Four Proved Cases," deserves the most serious consideration of dentists as well as physicians. The authors, Drs. Ernest L. Wynder and Everts A. Graham of St. Louis provide a fully documented paper to support the theory that there is an interrelation between the great increase of tobacco smoking (particularly of cigarettes) and the constantly growing incidence of cancer of the lung.

"From the evidence presented," say these investigators, "the temptation is strong to incriminate excessive smok-

ing over a long period as at least one important factor in the striking increase of bronchiogenic carcinoma." They offer four reasons for their conclusion: (1) the rarity of cases of epidermoid or undifferentiated carcinoma among male patients who have not been at least moderately heavy smokers for years; (2) much greater use of cigarettes among cancer of the lung patients than among other patients of the same age and economic groups; (3) the sex distribution of cancer of the lungs roughly corresponds to the ratio of long-term smoking habits of the two sexes; (4) the enormous increase of cigarette sales in the United States approximately parallels the increase of bronchiogenic carcinoma.

The fact that the cancer group

patients in their forties and fifties had smoked more heavily than those in whom the cancer developed at a later age, they suggest, may indicate that the greater the irritation the sooner will cancer develop in a susceptible person. In a single sentence they summarize their conclusions:

"In general it appears that the less a person smokes the less are the chances of cancer of the lung developing and, conversely, the more heavily a person smokes the greater are his chances of becoming affected with this disease."

At the Fifth International Cancer Congress held in Paris in mid-July, the chief subject of discussion was the startling increase of cancer of the lung (1948 cases, almost three times the number reported in 1939, the increase of cancer of the lung being 4.6 per cent greater than for cancer of all other

forms). Three independent groups of investigators, including the Wynder and Graham team, reported on this grave phenomenon and all agreed that excessive use of tobacco was chiefly to blame—also that the lungs of cigarette smokers showed a far higher incidence of cancer than did those of pipe and cigar smokers.

Dr. Alton Ochsner, of New Orleans, on behalf of his associates, Drs. Michael E. DeBakey, Paul T. DeCamp, and Charles J. Ray, with whom he studied 792 cases, stated: "There is a definite parallelism between the number of cases of bronchiogenic carcinoma and the sale of cigarettes." He added that "if cigarette smoking continues at the present rate, or if it increases as it has in the past, the future incidence of bronchiogenic carcinoma will be many times that of other cancers of the body."

FILTRATION IN CIGARETTES

Mechanical filtration by inert material in the stub of cigarettes or inserted in cigarette holders initially retains much of the nicotine and the tars in the cigarette smoke, especially if the cigarette is not puffed too vigorously. However, such materials soon become saturated and thereafter may yield even more nicotine and other materials than the original smoke; hence, they should be changed after each cigarette if they are used for this purpose. Impregnation of the filtering materials with acid increases the deposition of nicotine and other alkalis in tobacco as well as retaining

ammonia from the smoke. Acidulating materials are also rapidly exhausted.

Any nonvolatile acid, mineral or organic, may be used. Silicotungstic acid is particularly effective in precipitating nicotine, but it is also rapidly saturated in smoking. Passing tobacco smoke through a solution, as in Persian waterpipes, might yield a more prolonged filtration effect. Other possible injurious substances in tobacco smoke, especially the irritating aldehydes and carbonmonoxide, are not removed by such measures. — E. Bogen: *The Composition of Cigarettes and Cigarette Smoke*, J.A.M.A. per Jour. D. Med.

YOU, YOUR COLLECTOR, AND YOUR COLLEAGUES

From Chi. Med. Soc. Bul. May 25, 1950, per F. Rev. of Chi. D. Soc.

You make patients better, but your collector makes better patients.

Every unpaid fee that your collector recovers makes a better patient out of the person from whom he collected. Most of the fees you carry on your books are not there because your pa-

tients are experiencing genuine financial strain. They are unpaid because a colleague who preceded you as the patient's dentist failed to take steps to collect his fee. And the patient who finds it inconvenient, but not impossible, to pay you remembers that the

other doctor forgot about his bill; and hopes that you, too, will tire of sending statements. Even those who never owed a doctor share the universal knowledge that doctors wait, and even forget about bills.

So payment of your fee often depends on what other doctors did about their fees, and the fees now due these other doctors depend on what you did in the past about unpaid fees which were then due you.

When your collector recovers a fee for you, the patient has then and there learned that you must be promptly paid in the future; and so must the other doctors who treat him. That is the combined contribution that you and your collector make to your colleagues. When your local collector makes a collection for another doctor, they in turn have combined to make a better patient for you.

To make this reciprocal movement continental in scope, the best collection organizations in every community, in-

cluding a number of Chicago organizations, have joined to form the American Collectors Association. Participating collectors are able to refer accounts to whichever city your patient may have moved; and somebody representing you will knock on the delinquent patient's front door to ask for your fee.

Moreover, the out of town organization selected for you by the collector who is a member of the American Collectors Association will be bonded and is a member of its high standards of performance and ethics. Similarly, the collector in your community who was selected for membership in the association has also met the same high standards. Therefore your local collector, affiliated with the American Collectors Association, is equipped to give you superior service; and through him, you serve yourself and your colleagues by creating better patients for dentists everywhere.

PRECAUTIONS FOR THE DIABETIC PATIENT

Question: What precautions should be taken for the patient who states that he is a diabetic?

Answer: It should be first established that his diabetes mellitus is under satisfactory medical control. Odontogenic infection, as well as all infections, throws diabetics out of in-

sulin control and careful cooperation with the internist is frequently necessary to determine the opportune time for the required surgery. Since diabetics have a notoriously poor resistance to infection, they should be given the advantage of protective blood levels with antibiotics before surgery.—*Jour. of Oral Surg.*

CANCER WITH DENTAL SYMPTOMS

by ORLISS WILDERMUTH, M.D., and SIMEON T. CANTRIL, M.D., Seattle

Summary of paper in Jour. A.D.A., April, 1950

Pain referred to the teeth, trismus, or the two combined, can accompany cancer of the antrum or nasopharynx. When the dentist is unable to account for trismus or pain in the teeth in his dental examination, he should not rule out cancer of the antrum or nasopharynx. Since he may be the first one to be consulted, the opportunity for recognition of early cancer in these re-

gions depends on his thinking of its possibility.

Cancer of the tongue is often associated with jagged teeth or ill-fitting dentures which give rise to chronic trauma. Complaints referable to the tongue should be scrutinized for the possibility of cancer, and biopsy recommended in all doubtful lesions.



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Editorial

OUR HEADQUARTERS HOME

234 St. George Street, Toronto, Ontario

We just made it in time to help celebrate our Golden Anniversary. You see, dreams do come true. However in 1902 when the Canadian Dental Association was born it is doubtful if anyone dreamed of our profession owning a building. Their dream was unity and to that goal our predecessors gave of their time and talents. They dreamed, but they also made it possible for *our* dream to come true. Everyone who enters 234 would do well to pause in respect to all those pioneers, many of whom have passed on, whose vision, foresight and energy is responsible for this added privilege which we can now enjoy.

Many are the tributes which could be made in respect to the men who have laboured in our behalf, but rather than go into detail I will just refer to two actions which, I feel, consummate the whole story. In the first place to the members of the Board of Governors, who so magnanimously agreed on a central location for the Headquarters if and when it materialized, there were no barriers of geography, race or creed in any way raised up. At that moment, anyone who cared to look could see eventual success. We are justifiably proud of a profession which can rise to such heights. And secondly, when it was decided to underwrite the project at (\$75,000.00) by *Voluntary Corporate Subscription*, Provincial Representatives voted 100% in favour. What an example of material unity! Dental confrères, surely the faith and courage of these men has been rewarded. Yes, there are still peaks on the horizon to be explored but there should be no hesitancy in accepting

any challenge. The profession can and will continue to move onward and upward.

WHY A HEADQUARTERS?

Right away one can suggest, and rightly so, that we provide better and additional accommodation for our Secretary and Staff. That, the building will certainly do. Our Staff has laboured so loyally with accommodation utterly inadequate, that here alone our venture might be in a large measure justified. Our Secretary and his Staff, I am sure, do appreciate your confidence and will accept this added comfort as a tangible token of the profession's appreciation. And to them we wish every happiness in their new surroundings. We need have no fear but that they will continue to serve our profession to the best of their ability.

However, our Headquarters Home means more, much more than just physical accommodation. It marks a milestone in progress. It exemplifies a united front, so essential to success of future programs. From here will come the product of constructive thinking. To this centre will go the thinking of all individual and collective groups, to be co-related and returned for action.

The primary purpose behind this project was for the furtherance of our very worthy cause—Better Dental Health for the greatest number of our people. It is the earnest hope of the Board of Governors that every dentist, from east to west will regard this building as his, and whenever in the neighbourhood will drop in and make himself at home. In the spacious lounge, he will find relaxation, and also for his accommodation a library in keeping with the scientific nature of his profession.

In the last analysis, however, our success or our failure as a Health Profession is contingent on you and me as individuals. With our extended privileges come added responsibilities. Let us step out into the future with fresh courage, and a code of ethics in keeping with our worthy goal.

R. PERC LOWERY,

President of the Canadian Dental Association

BOOK REVIEWS

Anatomy For Dental Students. Mary F. Lucas Keene, D.Sc., M.B., B.S., Professor of Anatomy, Royal Free Hospital School of Medicine, University of London; J. Whillis, M.D., M.S., F.R.C.S., Professor of Anatomy, Guy's Hospital Medical and Dental Schools, University of London. 342 pp., illust. \$7.75. Edward Arnold and Co., London; Macmillan Co. of Canada, Toronto, 1950.

This book is a welcome addition to the field of dental education in that it presents the subject in such form and degree of detail

as the student can absorb in the time allotted. The first 203 pages of this volume are devoted to the systems of the body and is perhaps sufficient for the understanding of general physiology. Two chapters are devoted to those pathways in the central and peripheral nervous systems which are of special importance in dentistry. The remaining part of the book is concerned with the regional anatomy of the head and neck. In one aspect this volume differs from the usual in that it stresses the topography of structures in their relation to the cavities of the mouth,

nose and pharynx. Such functional activities as biting, chewing, sucking and swallowing are briefly considered. The complete absence of radiograms even in a volume of this size is most unfortunate. As a result the authors have missed an opportunity to link cadaveric anatomy with the anatomy of the living subject and at the same time initiate the student in a concept of normal variation. The illustration of the position of the heart, for example, is obviously based on dissected material and bears slight relation to the heart position in the living subject as shown by radiography. As a whole the 220 illustrations are clear and helpful especially those concerned with the regional anatomy of the head and neck. It has been said that only about one student in fifty ever looks up a reference and I sometimes wonder if the blame for this state of affairs is correctly placed on the student. Textbooks in the preclinical subjects very often lack adequate bibliographies as does this volume and unless the student is gradually exposed, one cannot expect him to suddenly develop the habit in clinical years. It is becoming more widely recognized that the dental student should appreciate more fully the body as a whole and this book is a moderately successful attempt to meet this need.

Dr. I. M. Murray, Dalhousie University

Leadership in Dentistry—Laboratory Relations, Its Role in American Dental Culture by Alfred J. Asgis, M.A., Ph.D., D.D.S., F.A.P.H.A., Chairman First Workshop on Trends in Dentistry—Trade—Laboratory Relations; Chairman Prosthetic Dental Service Committee, Dental Society State of New York; Assistant Professor of Oral Surgery and Lecturer on Public Health, New York Univ. College of Dentistry. Issued by the Joint Trade and Laboratory Relations Committee of the First, Second

and Tenth District Dental Societies of the State of New York.

This book consists of the original papers presented before the "First Workshop on Trends in Dentistry-Trade-Laboratory Relations" held in New York City on September 11, 1949 and is covered in eighteen chapters in this well prepared book.

The problems arising between the dental profession and its auxiliary services are becoming a matter of concern. This book contains a wealth of information concerning the relationship of the dental profession and the dental laboratory industry. In this book is outlined a method of procedure under the term "Accreditation" which represents the conscientious thought of some of the best minds in the profession. The dentist's responsibility in Oral Prosthesis is discussed also "sublevel" dentistry with its implications.

"Accreditation" refers to the method of recognition by the dental profession of those laboratories that have met required standards established by the profession and have been inspected and certified as such by an authorized professional agency, a plan which offers much of promise and which should be studied by all those who are interested in the relationship between the members of the dental profession and their auxiliary helpers.

The author points out that self-regulation through cooperation promises better dentistry laboratory relations than any that may be anticipated under the most efficient method of government regulation, through registration or licensure.

In our busy lives we may fail to realize how important the dental laboratory has become to our profession and how necessary it is for us to do all we can to help the craft survive and grow. In this process there are potential dangers to Dentistry which call for intelligent leadership. This book should prove most helpful in developing that leadership.

M. H. G.

ROYAL CANADIAN DENTAL CORPS NEWS

Lt.-Col. K. M. Baird paid a liaison visit to the Dental Division of the Medical Field Services Centre at Brookes Army

Medical School, Fort Sam Houston, during December.

Manners are the happy ways of doing things; each one a stroke of genius or of love, now repeated and hardened into usage.—Ralph Waldo Emerson.

NEWS FROM THE PROVINCES

ONTARIO

The passing of Dr. K. R. Harris of Toronto from a coronary attack, was a great shock to his Toronto colleagues and the West Toronto community. Ken, as he was familiarly known, was a highly respected citizen as well as a very skilled and capable dentist, who enjoyed a very large practice.

Dr. Harris was a man who possessed many sterling qualities. He was a quiet spoken, friendly, sincere, conscientious and tenacious to the principles he believed to be true and right. He was charitable to the mistakes of others and did things not for the glory reflected on himself but because he had a genuine desire to help along any good project or just lend a helping hand.

He was a man who loved his home and his family. He enjoyed the visits of his friends and he had so many. Undoubtedly the happiness of his home life was reflected in all his business, social and professional associations and perhaps the key to the high place of respect he won from all who knew him.

To his wife who meant so much to him, and his son Ralph who succeeds him in practice and his younger son Douglas, goes the sympathy of many who were pleased to be a friend.

The sudden death of Dr. F. Norman Downe of Sudbury cast a pall of gloom over his many friends and colleagues. He was a very active and popular citizen who was highly regarded by people of the city in all walks of life. At his funeral St. Andrew's United Church was crowded to capacity as his friends attended to pay their last tribute.

Dr. Downe was a great outdoorsman; he was a member of the Sudbury Fish and Game Protective Association. He had a farm near Massey where he enjoyed his leisure time. In his minister's funeral eulogy it was stated that Dr. Downe lived life fully and gave to great causes; he possessed qualities of goodness, love and truth, things that are eternal; he was singular in his devotion to everything in which he set his heart and he had a strong determination to perpetuate the memory of those killed in action in the two World Wars.

Dr. Downe made a great contribution to the life of his community and he will be greatly missed by so many.

Dr. S. Merton Kennedy of London, Ontario, was the recipient of a testimonial dinner at the London Hunt and Country Club on December 6. More than

100 colleagues and friends, mostly from the London community, were present at the party but there was a group from Toronto including the entire personnel of the Royal College of Dental Surgeons Board of Directors who happened to be in session at the time; all journeyed up by bus to pay tribute to a highly respected fellow colleague.

The dinner party arrangements were made by a London Committee of which Dr. Fred Baker was chairman and Dr. S. A. Moore was secretary. The fine spirit of the meeting reflected on the excellent work of the Committee as well as the esteem for the guest of honour.

Dr. Stanley R. Moore, a life long friend of Dr. Kennedy, was chairman for the evening and he carried out his duties in a commendable manner. There were many speakers desiring to express eulogy for the guest of the evening and whenever the mood tended to become too serious the chairman very aptly introduced a little story or anecdote which always provoked a laugh.

Among the out of town guests were members of the Board of the Royal College of Dental Surgeons: Drs. M. J. V. Kennan, Sudbury; C. M. Purcell, Pembroke; F. J. Furlong, Windsor; W. J. McEwen, Hamilton; R. J. Godfrey, Toronto; M. C. G. Bebee, Owen Sound; R. O. Winn, Kitchener; H. W. Reid, Toronto; D. W. Gullett, Toronto, and President S. J. Phillips, Oshawa. Other guests were Dr. R. P. Lowery, president of the Canadian Dental Association, Dr. Russell Woods, representing the Ontario Dental Association, Dr. Arnold Mason, Dr. Gordon McLean, Dr. Wilbur Amy, Dr. Harry S. Thompson, Dr. R. L. Revell and Dr. T. R. Marshall.

Many tributes were paid to the achievements of Dr. Kennedy throughout his years of active service to the people of London. Then there was deserved praise for his administrative stewardship while a director of the Royal College of Dental Surgeons but most of all for his kindly fathering of the profession in his own community. He is respected as a prince among his fellows and in recent years he has been affectionately regarded as the unofficial dean of dentists in the London area.

Much reference in eulogy was made to Dr. Kennedy's quiet genial personality, his kindness, his neighbourliness to the younger practitioner, his smile that never fades, his friendly hand clasp, his interest in dentistry and his colleagues' welfare, his constancy in promoting whatever is good and his readiness to lend a helping hand whenever an opportunity presents. Dr. Harvey Reid recited a little verse

that seemed rather to fit the guest of honour:

"Some crave their gold in minted mould
Some in harps hereafter
But give me mine in friendships fine
Good cheer and love and laughter."

On behalf of the London Dental Society, President Dr. Douglas Stiles made the presentation of an honorary life membership in the society. Dr. C. L. Strachan paid a tribute of praise and esteem from the younger members of the profession and Dr. Earl Fuller, in a masterly way, presented Dr. Kennedy with a sterling silver tray, cream and sugar, suitably inscribed.

In characteristic manner, still smiling, Dr. Kennedy expressed appreciation of the evening and the gifts in a few simple words. He acknowledged the kindness of his friends but concealed the depth of his emotion in his heart. It was a great event in the life of the London Dental Society, because in doing honour to an esteemed colleague, it brought prestige and honour to itself.

T. R. M.



DR. S. M. KENNEDY

The Faculty of Dentistry, University of Toronto announces another series of continuation courses for graduates in dentistry.

Orthodontics Course will be held the week of April 9-13. The course is designed for the general practitioner. It comprises a review of anatomical structures the development of head and jaws, normal occlusion and in addition, the etiology of malocclusion, tissue reaction during Orthodontic therapy and modern therapeutic methods for the interception of malocclusion. Sessions will be scheduled during which registrants may present practical cases for consultation and discussion.

The course is under the general direction of Dr. Robert E. Moyers. The fee is \$75 and enrolment limit is 10.

Pedodontics course under the general direction of Dr. S. H. MacGregor will be held on April 16, 17 and 18. It is designed to assist the general practitioner to better evaluate the growth and developmental processes of the child. The problems in preventive orthodontics, nutrition, public health, dental caries, and operative procedures are to be discussed.

Dr. Isaac Schour, Head of the Department of Histology and Associate Dean of graduate studies at University of Illinois, and Dr. S. Hemley, Head of the Department of Orthodontics at New York University will be guest instructors. Tuition fee for the course is \$30 and class enrolment unlimited.

Dental Oral Surgery and Anaesthesia course under the general direction of Professor J. H. Johnson will be conducted the week of April 23-27. It will include a brief review of the fundamentals of surgery, including anatomy, pathology, physiology, radiography, etc. Instructions will be given in local and general anaesthesia and specific problems in Dental Oral Surgery. An effort will be made to deal with the problems which confront the general practitioner in his office. Tuition fee \$75 and class limit 12.

Dr. William Harry Archer, Professor of Oral Surgery and Anaesthesia, School of Dentistry, University of Pittsburgh will be a guest lecturer.

Periodontics course will be conducted during the week of April 30 to May 4 and will be under the direction of Dr. H. K. Box and Dr. C. H. M. Williams.

The course will include consideration of the nature of periodontal disease, examination and case management, pocket therapy, metabolic influences on the periodontium, significance and correction of occlusal function, gingival recession, pocket surgery, applications of principles of periodontal practice to operative and prosthetic procedure. Tuition fee \$75 and enrolment limit 14.

The Toronto Academy of Dentistry held its first meeting for 1951 on January 17 at the theatre of the Royal Canadian Museum. Dr. S. A. MacGregor was the

essayist, and his subject was "Face the Facts". The meeting was well attended demonstrating the growing interest in dentistry for children and the respect for the high calibre of the speaker.

Dr. MacGregor's paper will be published in this journal soon but of course reading his article will lack the dynamic enthusiasm of the speaker's own presentation.

Class 2T6. 25 years after! All members of Class 2T6 within possible reach of the Royal York Hotel Toronto, are urged to attend a re-union, on the first evening of the Ontario Dental Association Convention, May 14, 1951, in Private Dining Room 3 beginning at 5:00 p.m.

Lloyd Saunders
Secretary

QUEBEC

Dr. C. R. Seller was elected President of **The Montreal Dental Club** at the fifty-third annual meeting held in the Mess of the R.C.D.C. December 11, 1950. Following a complimentary dinner, elections were held and the following were elected for the year 1951:

Honorary President... Dr. S. A. MacSween
President Dr. C. R. Seller
President-elect Dr. N. L. Martin
Secretary Dr. H. L. Mussells
Treasurer Dr. E. S. Dorion
Historian and Archivist, Dr. C. C. Bourne

Executive Committee: Drs. A. F. Cameron, J. McCutcheon, H. T. Oliver, R. T. Lamb, R. S. Edmison and Don McRae.

On the occasion of their completing thirty-five years in the practice of their profession, Honorary memberships were presented to Dr. H. R. Cleveland by Dr. E. Laurin; to Dr. O. A. Lefebvre by Dr. J. W. Abraham; and to Dr. D. D. MacDonald by Dr. K. Carver. It was with regret that the honour to Dr. Cleveland was bestowed in absentia, his being in the hospital at the time; all joined in wishing him a speedy recovery.

At the request of the president, Dr. Ken Carver presented a short report of the activities of the College of Dental Surgeons of the Province of Quebec. Dr. Carver stressed the difficulties being experienced in combating illegal practice in the province and stated that last year \$15,000.00 had been spent for this purpose. He urged all members to assist in this work by using prescriptions as required, and by reporting any infringements to the Board.

Reports were heard from the retiring president, Dr. S. A. MacSween, the secretary, treasurer, historian, and the chairman of the Fall Clinic, Dr. M. L. Donigan, who reported another successful year. The chairmen of the Winter

Meet, Drs. Art Donohue and Howard Oliver, announced that this year's meet would again be held at the Alpine Inn, Ste. Marguerite Station, the third week-end in February. It was also announced that the annual Knowlton Golf Week-end would be held the first week-end in June and plans were being made to hold a one-day meet in the Fall.

Seated at the head table were Drs. S. A. MacSween, C. R. Seller, A. D. Richardson, O. A. Lefebvre, D. D. MacDonald, M. L. Donigan, E. S. Dorion, H. L. Mussells, and C. C. Bourne.

On behalf of the members, a vote of thanks was extended to the outgoing executive by Dr. I. T. Guilboard.

R. F. H.

A demonstration of Immediate Sterilization and Periapical Curettage was presented by Prof. Vincent Tremblay, D.D.S., Université de Montreal, to the members of **The Montreal Endodontia Society** at its December meeting held in the Université de Montreal Dental Clinic.

Introduced by the president, Dr. Louis Rosen, Dr. Tremblay stated that the procedure of cutting off the root apex was based on the theory that the centre of the infection was the area of the apex. However, based on the experiences of Kronfeld, it was decided to omit cutting off the apex and to respect the layer of cementum which keeps the outlets of the dentinal tubules closed to infection.

Whenever possible, an attempt is made to medicate the canal, even if a negative culture is not obtained; if one negative culture is obtained, then it is reasonably safe to proceed. Immediate sterilization can be done in the vast majority of cases, stated Dr. Tremblay, but it is not 100%; extreme care is necessary where there is evident a blurred type of proliferative osteitis, or when a violent reaction is obtained in the test tube. He also advocated prophylactic use of penicillin in cases with a history of rheumatic fever or endocarditis; 300,000 crystalline penicillin G procaine in oil should be administered intra-muscularly by a physician.

With regard to the actual operation itself, Dr. Tremblay outlined the following procedure which he ably demonstrated:

1. Relieve the occlusion.
2. Using the rubber dam, open the canal, and wash with sodium hypochlorite and dry.
3. Use phenosulphonic acid and neutralize with sodium bicarbonate in alcohol.
4. Slightly overfill the canal with gutta percha and Kerr Sealer.
5. Check with x-ray.

6. Pentobarbital Sodium, U.S.P. 1½ gr, 20 mins. prior to operation.

7. Anaesthesia for central incisor, (area demonstrated by Dr. Tremblay), infiltration and naso-palate with xylocaine.

8. Incision: from distal of one lateral to distal of another, and half-way between gingival margin and mucco-buccal fold. Dr. Tremblay suggested using the blunt side of the scalpel, to outline the whole incision line prior to making the actual incision.

9. Locate area of granulation and enlarge with round bur.

10. Curette carefully to healthy bone; use suction.

11. When the palate has been perforated, a small round area will always be evident by x-ray; this is sterile and need not be operated upon later.

12. Remove the excess filling material, but do not cut apex.

13. If the area overlaps a perfectly normal tooth; careless curettage may destroy the blood supply.

14. Smooth off the walls of the cavity.

15. Application of silver nitrate in 28% ammonia, and eugenol.

16. Wash with normal saline.

17. Allow a blood clot to form—the best medication possible.

18. Suture with No. 10 black cotton and No. 18 curved needle.

19. Paint with composite tincture of benzoin.

Postmedication consists of ice packs on and off at 15 to 20 minute intervals, and the instruction to the patient not to use the tooth brush or pull the lip. Analgesics may be prescribed as indicated and penicillin where there is malaise. The sutures may be removed one week later.

An interesting question period followed Dr. Tremblay's fine clinic with Dr. S. A. MacSween expressing the thanks of the club.

R. F. H.

The Mount Royal Dental Society held a three day progressive clinic at the Mount Royal Hotel with Dr. D. P. Mowry, Dean of the Faculty of Dentistry and Professor of Periodontia at McGill University as guest clinician. The clinics were held on Nov. 10, 24, and Dec. 15, 1950, each given in two sessions, morning and afternoon. The morning sessions consisted of a discussion of a particular phase of periodontal treatment, each properly illustrated by slides, charts and models, while the afternoon sessions were clinical demonstrations of these various phases. The three-day clinic was broken down into the following topics:

1. Prophylaxis; 2. Balancing of Occlusion; 3. Simple Gingivectomy.

At the opening clinic, Dr. Mowry was

introduced by Dr. L. J. Rosen, who welcomed the clinician on behalf of the Society. Dr. Mowry, launching into a discussion of the topic for the day, that of Prophylaxis, hastened to point out that his clinics would be designed to teach the general practitioner simple periodontal treatment which can and should be performed by every dentist in his practice. He pointed out that there appears to be an unexplained reluctance on the part of the general practitioner to perform periodontal service for his patients in spite of the fact that the need for such treatment is overwhelmingly large and the post-operative risks involved, even in simple gingivectomy, are much smaller than those following extractions.

In his first morning session, Dr. Mowry explained that successful prophylactic treatment depends on the physiological tolerance of the tissues which will depend on local and systemic factors. The prime aim is to relieve the effects of the disturbance, whether it be calculus, traumatic occlusion, or a systemic disorder, and to maintain the normal state, i.e., health of the patient. The requirements for a normally healthy periodontal state are: 1. An intact gingival sulcus bordered by a tough and hornified gingiva, and 2. A clean and smoothly polished tooth. Though a minor gingival injury may prove harmless to the healthy young patient, the danger of bacterial invasion and potential gingivitis is ever existent. The objective then should be the removal of dead or damaged tissue or its restoration to health and the removal of bacterial plaques. This can be performed simply by proper prophylaxis, including subgingival curettage and gingivectomy to remove deep pockets. All periodontal work, Dr. Mowry indicated, should be performed in the presence of mild but potent antiseptics. He stressed particularly the use of Superoxol (neutralized with sodium bicarbonate) for oxygenation of congested or weak tissue.

Touching upon Vincent's infection, Dr. Mowry pointed out that the prime consideration in an active and painful case should be the reduction of the infection by the use of antibiotics or chromic acid and hydrogen peroxide, followed by thorough prophylaxis.

During the afternoon session Dean Mowry performed several prophylaxes, demonstrating the use of instruments and techniques for the thorough removal of supra- and subgingival calculus.

The second clinic was devoted to the balancing of occlusion. Dean Mowry stressed the law of morphology in relation to function and pointed out that normally the planes of occlusion are such that the resultant of forces is in the vertical position of the tooth. The objec-

tives of proper occlusal balancing should then be the elimination of traumatic lateral stress, the removal of cuspal interference in all excursions, the placing of as many teeth as possible into simultaneous contact in centric occlusion and the maintenance of aesthetics.

Dr. Mowry then outlined the procedure for balancing occlusion. These should be:

1. The Centric position—where pressure should be only on posteriors and on as many as possible without closing the bite.

2. The Protrusive position—where the line of incisive action should be equal on the centrals first and then on as many anteriors as possible.

3. The Protrusive Excursion—producing uninterfered movement from centric to protrusive position as the lower anteriors glide along the lingual planes of the upper anteriors. When possible, only the upper teeth should be ground and posterior interference eliminated. In cases of a badly traumatized anterior, it may be necessary to grind the lower anteriors out of occlusion entirely in centric if normal balancing appears insufficient.

4. Lateral Excursions—balancing one side first and then the other by eliminating riding cusps, and producing guiding planes. This should be done by grinding the buccal cusps of the uppers and lingual cusps of the lowers. All grinding should be done from the point of centric contact but not including it.

5. Centric Occlusion—by checking, if as many teeth as possible have been brought into simultaneous contact, or if a little judicious grinding can improve it.

Cases of closed bite should be considered for bite opening and mouth reconstruction if a favourable prognosis is anticipated. Such a case was demonstrated.

Dr. Mowry stressed that the above proceedings must be adapted to each individual case and that at all times too little grinding is safer than too much.

During the afternoon session Dr. Mowry demonstrated the above outlined procedures by doing several occlusal equilibrations on patients.

The final clinic given by Dean Mowry dealt with simple gingivectomy. He pointed out that advanced types of periodontal lesions are characterized by pocket formation. Assuming that following proper prophylaxis and occlusal equilibration the pockets are too deep for natural healing and restoration of the gingival crevice, it is sometimes necessary to institute surgery for their elimination. This should be the removal of the gingiva to the floor of the pocket followed by proper dressing with periodontal packs. However, gingivectomy should be performed only on selected

cases where a good prognosis is anticipated. Surgery should be instituted only following a pre-operative prophylaxis and in the absence of acute or subacute inflammation. The anaesthetic of choice is infiltration and surgery should not extend beyond $\frac{1}{2}$ hour at one visit. The depth of the pocket should be measured and a series of pricks placed on the gingiva outlining the line of incision. The tissue is incised and the gingiva removed. Bleeding is controlled by packing with suitable styptics and a post-operative pack prepared and inserted. The latter is changed periodically until the gingiva is healed and covered with epithelium to the floor of the sulcus.

In all periodontal treatment the patient must be educated in the proper use of the toothbrush and interdental stimulators when necessary, and should be impressed with the importance of his cooperation.

During the afternoon session Dr. Mowry performed a simple gingivectomy.

At the conclusion of the clinic, Dr. P. J. Gitnick thanked Dr. Mowry for his excellent presentation and expressed the hope that the Society may again be able to benefit from his knowledge in the not too distant future.

M. R. Lang

NOVA SCOTIA

The regular monthly meeting of **The Halifax County Dental Society** was held at the Nova Scotian Hotel, Halifax, on October 26, with the President, Dr. W. E. Barnstead in the chair.

Fitting reference was made to the passing of Dr. W. C. Oxner, and a minute of silence was observed as a tribute to the memory of our late confrère.

The speaker of the evening was Dr. Wm. D. Stevenson, Chief of the Neurosurgical Department of Dalhousie University Medical School, who gave a most interesting and instructive talk on some aspects of Neurosurgery of interest to the dentist.

Dr. Kenneth Kerr of Bedford, and Dr. Chas. Oliver of Halifax were elected members of the Society.

Following some discussion in reference to the proposed telephone course, conducted by the University of Illinois, it was agreed to suspend regular monthly meetings of the Society until next April; and that any necessary business of the Society could be transacted immediately prior to any of the lectures of the telephone course.

H. M. E.

BRITISH COLUMBIA

The first meeting of the **Vancouver and District Dental Society** in the New Year followed the usual plan of present-

ing clinics by home talent. This meeting has been most popular in the past, when a variety of subjects were presented. This year, the committee chose to feature two study groups—the Pedodontia Study Club of the Vancouver Society, and the Intercity Gold Foil Study Club, consisting of members from Victoria, Vancouver and New Westminster.

The afternoon period was taken over by the Pedodontia group. Chair clinics were presented, as follows:

Simple Cast Space Maintainers—

by Dr. Max Nacht

Class II Amalgam Restoration in a Deciduous Molar... by Dr. Orville Wright

Vital Pulpotomy in a Permanent

Molar by Dr. Gordon Jinks

In the evening, ten members of the Intercity Gold Foil Club presented their programs concurrently:

Cavity Preparation for a Class III Gold

Foil Restoration Dr. L. W. Beamish

Gold Foil Insertion in a Class III

Cavity Dr. N. C. Ferguson

Procedure in Preparation and Insertion

of Class III Gold Foil, with Models

and Slides Dr. J. P. McPherson

Cavity Preparation for a Class V Gold

Foil Restoration Dr. C. P. Johnson

Gold Foil Insertion in a Class V

Cavity Dr. R. R. Scharff

Procedure in Preparation and Insertion

of Class V Gold Foil, with Models

and slides Dr. John Gansner

Rubber Dam Technique—

Dr. John Sproule

The Class II Gold Foil Restoration-

Table Clinic K. N. Morrison

The Class III Gold Foil Restoration-

Table Clinic Ian Hamilton

In addition to these clinics, dental assistants Miss B. Lehuray and Miss R. Hutt demonstrated the preparation of gold foil cylinders and pellets.

Doctor W. K. Sproule, of Vancouver, is the mentor of the Intercity Club.

The Dental Schools of the Universities of Washington and Oregon are attracting a number of British Columbia men to their graduate study courses.

At the first graduate course presented at the School of Dentistry of the University of Washington, held just before the holidays, sixty-seven dentists from Washington, Oregon and British Columbia attended the lectures. Of this number, almost twenty-five per cent were from various points in British Columbia. The course, on Dental Therapeutics and Prescribing, was given by professors of the Departments of Pharmacol-

ogy, Periodontology and Endodontia, and Oral Surgery. Included were lectures and panel discussions on "Antibiotics", "The Barbiturates and the Analgesics" and "Local Anaesthetics."

Further courses will be arranged early in the New Year, on Endodontia, Cancer, The Use of Hydrocolloids, Anaesthesia, Prosthetics, and other subjects, including the use of the Airbrasive equipment in cavity preparation.

ALBERTA:

Calgary:—With the proposal by Mr. C. E. Gerhart, M.P. that the **Provincial Government take over the licensing of the professions**, considerable agitation, with many misgivings, has been felt by all the profession. Dr. A. Steeves, Calgary's representative, on behalf of the Alberta Dental Association Board, approached Mr. Gerhart for further clarification of this proposal. Dr. Steeve's report on the interview, along with the reading of a letter presented to the Government regarding the opinion of the dental profession on this matter, was given to the **Calgary Dental Society**. No definite agreement has yet been reached.

The revision of the Alberta minimum fee schedule for dental operations as proposed by a committee of the Calgary Dental Society came under discussion. Dr. Bay, chairman of the committee, explained that as minimum fees too often became the set fees, they should not be too low. He said that the committee had also taken into consideration that sufficient increase in fees would inspire the members of the dental profession to improve their work.

It was moved that this fee schedule be sent to the Alberta Dental Association for consideration and approval. It was also moved that the fee schedule not be published, but transmitted by a member of the board, or a member delegated by them.

Dr. Spencer Lea presented a report on the study of means of obtaining and utilizing of funds to be presented to the Faculty of Dentistry, University of Alberta. It was moved that Calgary Dental Society should contribute annually from its funds \$100.00 to the Faculty of Dentistry for post-graduate work for staff members.

Arrangements are being made by Dr. Jack Walker for members of the Society, who are interested in curling for a couple of afternoons, during the ensuing months, at the Glencoe Club.

The Calgary Dental Society received the second of the telephone broadcasts

sponsored by the Post-Graduate Department of the Faculty of Dentistry of the University of Illinois. The reception was flawless and the broadcast received many favourable comments from the members of the Society.

R. T. Shillington

SASKATCHEWAN:

The following are the officers and members of the **Saskatchewan Dental Council**. President—Dr. M. J. MacDonnell; Vice-President—Dr. W. F. Hancock; Sec.-Treas.—Dr. L. J. D. Fasken; Members—Dr. R. Reid, Dr. L. Hare. Provincial Representative on C.D.A. Board of Governors—Dr. J. P. Whyte; Provincial Representative on the Dental Council of Canada—Dr. A. J. Brett.

MANITOBA:

The annual election of three members of the **Manitoba Dental Association** to its Board of Directors for a two year term resulted in the re-election of the two members from Winnipeg whose first two year term had expired, namely Dr. J. M. Grahame and Dr. W. J. Riley. The third name is that of Dr. L. A. McLean of Minnedosa who replaces Dr. Paul Cleave who has served for ten years. Dr. Cleave is now in his second term as Mayor of Neepawa.

The above information was announced on January 10 at the annual business meeting of the Association presided over by Dr. K. M. Johnson of Winnipeg who

has been President of the Board of Directors during the past year. He has been succeeded by Dr. J. Gordon Elsey of Winnipeg who will fill the office during the current year. Dr. J. M. Grahame succeeds Dr. Elsey as Vice-President and Dr. J. F. Morrison continues as Secretary-Treasurer and Registrar.

The topics receiving the most attention at the meeting were health insurance, dental education for dental students, adequate financial support for the Canadian Dental Association and financial assistance for study groups.

Health insurance has been committee work in Manitoba for over twenty-five years; likewise establishment of a dental college. Dental Public Health education has been another live topic and several thousand dollars have been spent in the past two decades educating the public about the value of a healthy mouth. The Public in Manitoba are so mouth-health conscious that the demands for dental service far exceed the available dental service. Hence the steady pressure for more dentists and the impossibility of quickly providing it, because it has as yet been impossible to secure financial support from the Powers that be in control of provincial finance. The old saying that "Money is the root of all evil," should be paraphrased by beginning the saying with the words "The lack of." Billions for War, Millions for Alcohol, Not even a few hundred thousand for a Dental Faculty in the University! The meeting unanimously supported the item in the budget for our share of adequate financial support for the C.D.A.

J. F. M.

BRITISH COMMONWEALTH NEWS

GREAT BRITAIN:

In the December 2 issue of the British Medical Journal the Editor says in part: "Just in what direction is the **National Health Service** heading? The outside observer, ignoring our capacity—which one day might be exhausted—for muddling through, would be justified in saying, 'For the bankruptcy court.' Not only are we facing bankruptcy because of the Utopian finances of the Welfare State. We are, as a profession, facing the bankruptcy of a policy, a policy based on the decisions of the Coalition Government during a war for survival and put into execution by a Minister of Health who could not resist the temptation to behave like a Fairy Godmother to an impoverished nation.

"On both the medical and the economic

front the Minister of Health has failed to do all those things he promised to do for the efficient supply of general medical services to the public.

"So far as it is possible to judge, the public at large welcomes what limited benefits the Service brings to it—principally, perhaps, the benefit of not having to pay directly for medical aid at the time of receiving it. And the public has run riot in the chemist's shop—at what a cost it is only just beginning to discover. The shocking waste of public money over the inessentials of medicine has left little over for what is more urgently needed.

"The people of this country must face the fact that the National Health Service is 'heading' for bankruptcy. One way in which a sense of realism and responsi-

bility can be induced is the suggestion made in the Economist that charges should be made throughout the whole of the Service, charges which will not prohibit the seeking of advice when it is needed. There is no reason why the State should pay the whole cost of the one or the other.

"We cannot escape the conclusion that the failure of the Minister of Health to provide a fully comprehensive health service, and to fulfil his obligations to the medical profession, lies in the economic mess that has come from appearing to promise the people of this country something for nothing. It is difficult to see how the National Health Service can be put on a sound footing and the full resources of modern medicine be at the disposal of the public without considerable readjustment of its economy. The medical profession is discontented and disillusioned, not because of payment, or lack of it, for this or that, but because it sees postponed indefinitely the opportunities for improving the medical care of the people,"

Of all the industries or services which have been nationalized in England, the public likes **nationalization of the health services** the best, judging by an opinion survey just completed by the British Institute of Public Opinion. More than seven in every ten in the survey say that nationalization of medical services, which has been in effect for more than two years, is "good". . . .

The British survey went on to explore the reaction of Britishers to the quality of attention they are getting from doctors under the nationalized health plan. "Do you think that under the National Health Scheme the attention you get from your doctor is better, worse, or about the same as you got as a private patient?"

Worse	21%
Better	14
Same	48
Haven't used services	12
Don't know	5

100%

Washington Post Nov. 10, 1950.

AUSTRALIA:

Events have moved rapidly toward the development of a **National Health Scheme** in Australia, and the first phase, the provision of free "life-saving" drugs, was implemented September 4. The new Minister of Health, Sir Earle Page, F.R.C.S., maintains that the government

should support only those who help themselves. Accordingly, his proposals are based on nationwide voluntary insurance against sickness and disease. He establishes the principle that both the state and the individual have obligations in meeting the cost of treatment of sickness. The Australian view is that a nationalized medical program is wasteful in its administration, disastrous in the quality of its treatment and destructive of the morale of the people. . . The aim is to provide medical attention for all persons who require it without either reducing them to complete dependence on a government service or compelling doctors to function as government servants.

There are six fundamental steps in the government's proposals: (1) improvement of child nutrition by the provision of free milk, (2) a hospital building program, (3) increased financial help to pay hospital accommodation fees, (4) free provision of scheduled therapeutic and life-saving drugs, (5) government acceptance of the financial responsibility for the medical care of the indigent and pensioners by private medical practitioners and (6) subsidy toward the medical and hospital costs of those persons who show a desire to help themselves. This subsidy would be about 3 per cent of total medical costs. The balance would be met by the voluntary insurance benefit, financed by a weekly premium of three shillings (33 cents) and about 10 per cent of the cost paid by the patient at the time.—Jour. A.M.A., Oct. 21, 1950.

NEW ZEALAND:

According to the Nov. 4 issue of the Journal of the American Medical Association, after 12 years of operation, **New Zealand's "Social Security" Medical Plan** is collapsing under its own weight. In 1938 after a period of economic depression, the people of New Zealand welcomed the scheme, with its free medicine, free hospitalization and nominal payments for medical attendance. But the original humanitarian concept has become a political football. Year by year benefits have been increased as a bait for the electors, until today the cost of social security is the biggest item in the national budget. When a patient consults a doctor in New Zealand, he pays 34 cents (two shillings and sixpence). The government pays the balance of the fee. The patient receives his medicine free on presentation of the doctor's prescription at the pharmacy. One of the problems concerns "shopping": If the doctor does not satisfy the patient in what

he feels are his prescription needs, he will go to a more obliging doctor.

"Increases in the cost of general medical services and pharmaceutical supplies have been of such magnitude as to lead to serious misgivings as to whether state medical insurance against sickness is practicable or whether the best method of payment for services has been adopted", said Dr. Duncan Cook, director of clinical services in his annual report for 1949-1950 to the New Zealand parliament. "The payment of practitioners should neither encourage quantity rather than quality of service nor encourage people to make unnecessary demands on practitioners. Unless the desired reforms made possible by the new legislation last session provide satisfactory remedies, the present system of social security medicine in New Zealand will have

to be either modified considerably or replaced by a system more readily controllable."

SOUTH AFRICA:

Extraction of Teeth by Medical Practitioners.—The Dental Association of South Africa has done everything possible to restrict medical practitioners from doing extractions where dentists are available. Representations by the Association and even a recommendation by S. A. Medical and Dental Council have failed to convince the Minister for Health of the necessity for passing amending legislation to this effect.

The Association will again press this matter at a suitable opportunity in the future.—*Jour. D.A.S.A.*

GENERAL NEWS

Those old magazines in dentists' offices is the title of an article which appeared in the *Sun-Times* of Owen Sound, Ontario, and reads as follows:

"Often people have wondered just why it is that the reading material in many dentists' waiting rooms is confined to such literary gems as *The National Geographic Magazine* for June, 1912, or the paper-bound statistical report of a convention of Canadian Sanitation Engineers held at Elks' Esophagus, Sask., in the fall of 1896.

"Generally speaking, when one is waiting in a dentist's office, personal morale is at an exceedingly low ebb. In the minutes (or hours) preceding the nurse's falsely cheerful words, 'The doctor is ready for you now,' the reading matter really wanted is something gay, sprightly and right up to date. Definitely not the sort of stuff mentioned earlier; or, even worse, those grisly dentists' trade magazines with line drawings of bicuspid abscesses that extend down to the diaphragm, and terrifying accounts of post-operative collapse among middle-aged dental patients.

"Recently *The Milwaukee Journal* wondered about this state of affairs, too, and had one of its reporters make a survey of dentists' offices. The survey disclosed that dentists are quite aware that, in the main, their reading matter for waiting patients is out of date, to put it mildly. Almost without exception, they asserted, however, they would prefer to provide their patients with cheerful new magazines, hot off the news stands; but

they are prevented from carrying out their humanitarian intentions by the larcenous behaviour of the patients themselves.

"If we put out new magazines in the morning, they are invariably all gone by nightfall," declared a spokesman for one Milwaukee dental clinic, 'So in self defense we confine our waiting room literature to the type of stuff no one would want to steal.'

"Most dentists interviewed concurred in this opinion. One practitioner with a predominantly juvenile clientele said he had experimented generously in supplying comic books for waiting youngsters, but had to give up the idea. 'You'd think those books had wings the way they disappeared,' he commented wryly.

"So we have no one to blame but ourselves—or our light-fingered fellow patients—when we cannot read the latest magazines as we wait with horrid anticipation for the unnerving call to the inner dental sanctum. Let's just reflect on that the next time we are in a dentist's waiting room and pick up a chatty issue of the *Stove Bolt Threaders' Annual review for 1889.*"

Editor's comment: *The above has not been true of our office during many years. We always keep the very latest magazines in our reception room, also books for children, and it is only on the rarest occasion that one is missing, and this may have been by mistake. I trust that very few dentists in Canada are*

troubled in the way this article suggests. Nor do I think that this is the reason why old magazines are left in the reception room. It is more a matter of carelessness. As for leaving dental magazines in the reception room this has been dealt with before on the editorial page. Of course this should never be done.

Dental Education costs up 50 per cent since 1943 in U.S.A.—The cost of a four-year dental education, not including living expenses, now averages \$3,429.80 in the U.S.A., it was revealed in a study recently completed by Dr. Shailer Peterson, secretary of the A.D.A. Council on Dental Education. This figure is about 51 per cent higher than the \$2,267 average computed in a similar study in 1943.

The Editor of the New York Journal of Dentistry in his January issue points out the outstanding achievements of **Dentistry in 1950**, in part, as follows:

RADIOISOTOPES IN DENTAL RESEARCH. The United States Atomic Energy Commission made available radioisotopes for possible application in dental research problems. The isotopes permit tracing of vital nutrients through the teeth as they do in other bodily tissues.

GERODONTIA. With the increase of the average span of life from 49.2 years in 1900 to 68 years in 1950, dentists began to show increased interest in care of the teeth of aged persons.

DENTAL MATERIALS. Of the \$864,000,000 spent in the United States for dentistry in 1948, over \$100,000,000 was for dental materials, according to the National Bureau of Standards. Estimates for 1950 place expenditures for dentistry at over one billion dollars and for dental materials and equipment at one and one half billion dollars.

RESEARCH GRANTS. The National Institute of Dental Research, a division of the National Institutes of Health of the United States Public Health Service, made available a series of research fellowships to dental scholars.

CONTROL OF CARIES. Dental caries in children continues to be a major concern to dentists. Application of a 2 per cent solution of sodium fluoride is conceded to produce a 40 per cent average reduction of decay of teeth in children. Fluoridation of water supplies, initiated in New York State in 1945 was shown to effect marked reduction in children. The American Dental Association now urges communities to adopt this method

of adding 1 part per million of sodium fluoride to their water supply. In the meantime tooth brushing after meals, with or without the use of a dentifrice is still recognized as the best method of reducing tooth decay.

VOLUNTARY DENTAL INSURANCE. In line with the policy of the American Dental Association which calls for pilot experiments in voluntary dental health insurance, New York dentists have approved the voluntary dental insurance plan of the Group Dental Health Insurance, Inc.

AIRBRASIVE. An airbrasive machine giving promise of substituting in large part for the rotary drill was described by Dr. Robert B. Black, of Corpus Christi, Tex., inventor of the technique. Use of the equipment has been limited to dental schools for further study and it is expected that it will be several years before the airbrasive device will be available for routine dental treatments.

New York Approves Dental Insurance Plan.—The First District Dental Society of New York has approved the Voluntary Dental Insurance Plan of Group Dental Health Insurance, Inc. This is the first voluntary dental insurance plan in the United States and is designed primarily for those with family income of less than \$5,000 a year.

Initially, the plan will be limited in its present form to a two-year period and to 25,000 subscribers.

Group enrolment, similar to present hospital and medical care insurance plans, is the basic principle of the plan. The subscriber must be a member of an employed group of 60 or more, 75 per cent of whom must enrol. Employers will contribute toward the premiums also. Premiums are expected to be \$19.80 a year for a single person, \$39.60 for a family of two, and \$72.00 for a family of three or more (unmarried children). Benefits will cover the entire dental fee when the subscriber's annual income is not over \$5,000. If it exceeds this amount, the company which employs the subscriber will pay an indemnity toward the cost of the services rendered.

The plan will operate in two stages:

(1) Correction of existing dental defects. This is to be paid for by the subscriber at a favourable scale of fees. Arrangements will be made to finance this initial care, at acceptable rates and for long terms.

(2) Maintenance. During this stage, Group Health Insurance will assume practically the full cost for complete

dental care for those in the \$5,000-or-less income bracket. Among services rendered will be an initial examination, including x-rays, an annual x-ray check-up and prophylaxis twice a year. Also included will be fillings, porcelain jackets and other crowns, extractions, dentures, bridgework, and orthodontia for children. The services of specialists will be provided when necessary.

Group Health Insurance, Inc., is a non-profit voluntary medical insurance in operation for over 10 years. It has over 80,000 subscribers and more than 3,000 participating physicians. — F. Rev. of Chic. D. Soc.

The Canadian Dental Nurses' and Assistants' Association published its First Quarterly Bulletin in December and carried information about the activities of the various branches of the Association from Victoria to Halifax. We wish for the Nurses and Assistants every possible success in this new and promising venture.

M. H. G.

Registration at the 91st Annual A.D.A. Meeting, Atlantic City, N.J., Oct. 30-Nov. 2 was 11,608 persons.

There has been a good deal of publicity relative to the **New Airbrasive Technique** used in tooth preparation. The S. S. White Co., which has developed the airbrasive equipment, has requested the dental schools to undertake the instruction in its use.

It is the plan of the S. S. White Co. to sell this equipment only to qualified dentists who have had instruction in the use of this equipment and technique.

The dentist should carefully consider the advantages and disadvantages of this equipment and remember that our history is filled with periods of enthusiasm for new drugs and procedures that ultimately take their place in dental practice, but rarely to the complete exclusion of older methods.

Following are some of the points regarding airbrasive that are the result of the experiences of men who have worked with it.

Many operators are of the opinion that some cavity preparations can be accomplished more rapidly. It is believed that many good preparations can be made with greater comfort to the patient and without the use of the hyperdermic needle. As no bur or drill is employed, no frictional heat is produced. In fact, what little heat may be generated by the abrasive substance is offset by the cooling action of the gas used as the propellant. There is absolutely no vibration and no bone conducted noise. The

operators who prepared cavities with the instruments upon patients were favourably impressed with the patient reaction. The pressure of the propellant is nominal, having actually been measured at slightly less than one-half ounce.

The unit itself is expensive and seems rather large, particularly if it is to be placed in an already overcrowded operating room. Noise of the blower assembly should be mentioned, although one soon gets accustomed to it. Courses of instruction must be taken and their costs must be paid for by the dentist. A certain amount of time is required to learn the proper use and manipulation of the instrument.

The usual type of hand cutting instruments are necessary to obtain smooth walls and sharp line angles, or to produce small undercuts and establish cavo-surface bevels. As the abrasive material does not function in the presence of moisture, a dry field is essential, and the rubber dam is required. The engine head, hand piece and burs will not be displaced. In view of the fact that clear vision is necessary, inaccessible cavities are extremely difficult, if not impossible, to prepare. Protection of surfaces of adjacent teeth is necessary, as well as finished and highly polished restorations.—*Jour. Cal. State D. Assoc.*

Drive to Fight the Common Cold.—A drive for \$5,000,000 to fight the common cold was announced November 12 in behalf of the American College of Chest Physicians and the American Association of Industrial Physicians and Surgeons. Medical research teams will coordinate investigation into the cause and possible cure of the ailment. American industry, which loses an estimated billion dollars annually through the common cold, will be approached first to finance the medical research and coordinating facilities.

Dr. Ferlaine said that the time was ripe for mass coordinated research such as that directed at cancer. It was noted that the virus of the common cold could be grown, that the electron microscope had made more intensive research possible and that virology had at last "come of age." Teams of physicians and researchers now in the field as well as men on a full-time research basis would concentrate on study of the malady, according to the plan.—*N.Y. Times*, Nov. 13, 1950.

The Public Health League of California is an organization of ethical medical dental and allied professional people and institutions, formed to study and actively attempt to solve the legislative and economic problems confronting the healing arts. Speaking bluntly, it is a

militant political organization interested in good public health legislation and the maintenance of high professional standards.

It canvasses the candidates for legislative and other public office (state and national) and advises its members as to the stand of those candidates on issues affecting the League membership.

It digests all proposed State legislation and informs its members about those bills to be supported and those to be opposed.

It maintains a "lobby" at the State Capitol.

Over 70,000 letters were sent out by members and friends of the League urging the election of a friendly candidate, who won by the largest vote ever given a candidate for that office in San Francisco.

The Public Health League has successfully spearheaded the defeat of attempts by two California governors to put over compulsory health insurance in this State.

If politicians can get control of the healing arts fields they will have political power beyond their fondest dreams. One "statesman" is reputed to have said: "Give me the united support of the medical and allied professions and I can be elected president of the United States."—*Jour. Cal. State D. Asso.*

Socialized Medicine Held Vital in Israel.—"Special conditions in Israel have made socialized medicine as elementary a necessity as bread and shelter, according to a statement November 14 by Dr. Zaiman Grinberg, medical director of the Beilinson Hospital. The Israel medical service, he said, is almost overwhelmed by the demands made on it because of the present shortage of doctors and nurses. One of the specific problems, he said, is the tremendous influx of Jews from Yemen, North Africa, Iran and Iraq, some of whom brought tropical diseases with them."—*N.Y. Times*, No. 15, 1950.

The California State Dental Association has officially recommended the **fluoridation of all waters in the State** that are fluorine-deficient. In the immediate future we can expect many California communities to begin to give thought to fluoridation of communal water supplies.

It is well established that waters bearing 1 or 1½ parts fluorine to a million parts of water decreases the new caries incidence 60 to 70 per cent. Investigations in which fluorine has been added artificially show that after but two years there is about 15 per cent reduction, and after three years 30 per cent reduction in caries activity.—*Jour. Cal. State D. Asso.*

IN MEMORIAM

James McKechnie Wathen, a prominent member of the dental profession of the City of Montreal and a former president of the Montreal Dental Club, died suddenly on January 2. He was in his 66th year.

Born at Harcourt, N.B., Dr. Wathen received his early education in the Maritime Provinces before entering McGill University where he was graduated from the dental faculty in 1913.

He practised in Montreal and rapidly gained recognition as a dentist, becoming president of the Montreal Dental Club and later being made an honorary member after 36 years of practice.

He was a member of the Montreal Curling Club, the Montreal Badminton and Squash Club, the Pi Kappa Pi fraternity, and the McGill Graduates Society; he was also an active member of the Westmount Municipal Association. At the time of his death, he was a warden of St. Matthias Church, Westmount.

Dr. Wathen is survived by his widow, two daughters, four sisters, and two grandchildren.

Frederick Norman Downe, of Sudbury, Ontario, aged 52, died at St. Michael's Hospital on December 14.

He was graduated from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1923. He first opened his practice at Massey, Ontario; from here he moved to Detroit and later moved to his new offices in Sudbury in 1929.

Dr. Downe was active in many organizations; he was past president of the Sudbury Branch of the Canadian Legion; a member of Nickel Lodge, A.F. and A.M., Tuscan Chapter, Mavar preceptory, Rameses Temple AAONMS of Toronto and the Sudbury Shrine Club.

He was a veteran of the First World War having served with the 15th Battalion and the 18th Battery. During the Second World War he was active with the reserve army, earning the rank of Lieutenant-Colonel.

Dr. Downe is survived by his widow, two daughters and one son, Dr. William N. Downe, as well as brothers and sisters.

IN MEMORIAM

Oliver Martin of Ottawa died on November 17 in his 85th year.

Dr. Martin was graduated from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1890 and has always practised his profession in Ottawa, until his retirement last August.

Dr. Martin was a native Ottawan and was a very familiar figure at dental meetings in our capital city. In 1940 he was presented with honorary membership in the Royal College of Dental Surgeons having practised dentistry 50 years in Ontario. He was also an Honorary Life Member of the Ontario Dental Society.

He was a member of Dove Lodge A.F. and A.M. and a member of the Scottish Rite. He had the distinction of being the oldest active member of the University Club.

Surviving Dr. Martin are one daughter and three sons: Dr. Lawrence, who was associated with his father in practice many years; Paul of Sault Ste. Marie and Branston of Kingston. Mrs. Martin predeceased him in 1946.

Frederick William Vivian of Hamilton, Ontario, aged 55, died at St. Joseph's Hospital on December 8.

Dr. Vivian was graduated from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1923. Immediately on graduation he opened his practice in Hamilton where he continued until his death.

He was active in many organizations: he was a past High Chief Ranger in the I.O.F.; a past master of his Masonic Lodge; a member of the A. and A.S.R.; a director of the Hamilton Advertising and Sales Club; and had received the Walton Senior Trophy awarded to him as a member of the speakers Division of the Club.

He was an active member of Westdale United Church.

Dr. Vivian is survived by his widow, two sons and two daughters.

Kenneth R. Harris of Toronto, Ontario, died suddenly at his home on December 11, from a fatal heart seizure.

Dr. Harris was graduated from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1922 and immediately began his practice in West Toronto where he continued for 29 years.

Dr. Harris served overseas in the first

Great War with the Canadian Army Dental Corps from 1916 to 1919.

He was a member of the Toronto Academy of Dentistry executive for six years and one year as treasurer. He served on the staff of the Faculty of Dentistry, University of Toronto, for many years. He was an active member of the Canadian Progress Club, and has held the offices of Director, President, and Secretary-Treasurer of the Club. He was a member of High Park Lodge A.F. and A.M., and a member of Kingsway Presbyterian Church.

Dr. Harris is survived by his widow and two sons: Dr. Ralph who graduated this year in dentistry, and Douglas. His mother, two sisters and four brothers also survive.

Morris Edward Peterson of Hamilton, Ontario, aged 73, died at his home on December 5.

Dr. Peterson was graduated from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1902. He began his practice in Dundalk and later moved to Chesley. In 1940 he retired from active practice following a motor accident.

He is survived by his widow and four sons.

George Edward Renwick of Lakefield, Ontario, aged 53, died suddenly at his home on December 14.

He was graduated from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1923. He began his practice immediately in Lakefield.

Dr. Renwick served overseas in the First Great War with the Royal Canadian Engineers from 1916 to 1919.

He was a school trustee at Lakefield from 1931 to 1935; he was a member of the Masonic Order.

He is survived by his widow and one daughter.

Archibald A. Stewart of Toronto, Ontario, aged 69, died January 5. He was graduated from the Dental School of the Royal College of Dental Surgeons of Ontario in 1904 and for some years was Professor of Crown and Bridge Work in the College. In his younger years he was a keen lacrosse player. He was a member and elder of Knox Presbyterian Church.

Dr. Stewart is survived by his widow, two daughters and three sons.

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Curetage péri-apical

par JACQUES BELANGER, D.D.S., Montréal

Introduction:

La science médicale, toute progressive qu'elle soit, cherche toujours de nouvelles solutions aux troubles de l'organisme humain. C'est ainsi qu'après de multiples recherches et de longues heures de travail, certains membres de la profession médicale et dentaire apportent une réponse au problème. Celui qui nous concerne aujourd'hui, est le curetage péri-apical.

Depuis plusieurs années, nous avons fait un grand pas pour l'amélioration des traitements dentaires. L'extraction à outrance a été peu à peu abandonnée, et l'on s'est familiarisé avec les nouvelles méthodes conservatrices. C'est ainsi que l'apectomie, consistant dans l'amputation apicale d'une dent infectée, a été adoptée. Mais ce traitement me semble toujours quelque peu radical, et c'est pourquoi je viens proposer une méthode qui se trouve à être en quelque sorte un compromis.

Levine classifie ainsi les dents à traiter:

- 1- dents non abcédées, à un canal.
- 2- dents à canal unique, abcédées.
- 3- dents à canaux multiples, abcédées.
- 4- dents à canaux multiples, non abcédées.

Après avoir considéré différents cas, nous avons pensé qu'il était possible d'éliminer toute infection, sans pour cela amputer l'apex de la dent concernée, en curetant la région nécrosée, et éviter toute récurrence infectieuse. Pour tenter la

preuve de cette façon de voir, nous présenterons l'exposé de la technique à suivre, et l'exposition de cas cliniques au moyen de radiographies prises à différents intervalles, avant, pendant, et après l'opération.

Avant d'aborder le sujet proprement dit, repassons la théorie des différentes infections, le phénomène de l'inflammation, et son processus.

Littérature:

L'expérience a prouvé qu'à la suite de certains traumatismes ou de certains travaux en dentisterie opératoire, ou enfin de processus inflammatoire commun à l'organisme humain, il se crée certaines zones d'infection.

Celles-ci peuvent se présenter sous diverses formes: périodontite apicale aigue, abcès, alvéolaire chronique, sub-aigu, ou enfin granulôme, et ceci peut dégénérer en kyste.

Ces maladies péri-apicales sont dans la majorité des cas précédées de réactions pulpaires diverses.

On sait que la pulpe est composée de différents éléments cellulaires parmi lesquels on compte les cellules odontoblastes, qui sont formatrices de la dentine, les fibres de Korch, les cellules tissulaires de conjonction. Enchevêtrés à travers ces constituants, nous avons les vaisseaux sanguins et lymphatiques, et les branches nerveuses provenant d'un tronc principal... et tout ceci baigne dans une substance intercellulaire.

La dent repose dans une concavité osseuse appelée alvéole. Elle est retenue dans cette alvéole par une conjonctive appelée membrane péri-dentaire, et cette même dent peut résister aux forces appliquées contre elle par le jeu des fibres transversales, obliques, gingivales et longitudinales. La membrane péri-dentaire exerce des fonctions bien définies qui sont:—

- 1- physique : elle maintient la dent : en relation avec les : tissus adjacents.
- 2- vitale : en effet, elle a une : fonction nutritive à : l'égard des différents : tissus composant la : dent, extérieurement à : la pulpe; cette propriété lui est donnée par : sa constitution propre : où l'on rencontre des : vaisseaux sanguins et : lymphatiques et de : multiples terminaisons : nerveuses.
- 3- sensorielle : elle est responsable de : la sensibilité de la dent : au toucher.

Ces éléments cellulaires de la pulpe et la membrane péri-dentaire réagissent de façon normale dans un organisme sain, mais, si celui-ci entre dans un stage anormal, c'est-à-dire, si une cause quelconque vient déranger le cycle de vie des cellules de ce même organisme, alors s'opère une réaction caractéristique.

Prenons comme exemple le cas où la partie vitale de la dent est attaquée par les bactéries, éléments principaux de la carie, il se produit alors un phénomène propre à la nature humaine, et ce phénomène, c'est l'inflammation. Lester Cahn nous dit que l'inflammation est la réaction des tissus à un irritant: l'objet de cette réaction est de neutraliser et d'enlever cet irritant, et ceci s'opère au moyen d'un exsudat, dit inflammatoire, qui se compose d'une portion cellulaire et fluide. Le phénomène vasculaire, si souvent mis en évidence par les différents bouquins, arrive pour faciliter la voie aux cellules sanguines de défense, pour atteindre la partie lésée du corps humain.

Les plus importants constituants de l'exsudat, sont les cellules phagocytes qui déplacent les bactéries, les substances étrangères et nécrotiques et les débris cellulaires. Les phagocytes sont des leucocytes provenant du flot sanguin et qui enlèvent les bactéries, et des hystiocytes, provenant pour la plus grande partie des autres cellules tissulaires. La fonction propre aux hystiocytes, est de débarrasser l'organisme des cellules mortes et nécrosées, et autres substances particulières; et si une cellule hystiocyte ne peut suffire à la tâche, d'autres semblables viendront se joindre à elle pour l'aider dans son travail.

Les cellules leucocytes polymorpho-nucléaires ne digèrent pas seulement les bactéries, mais sécrètent aussi, après la destruction de ces mêmes bactéries, un enzyme protéolytique qui liquéfie les tissus nécrosés. Les autres constituants de l'exsudat sont les lymphocytes, les cellules du plasma, les oesinophiles, les cellules géantes et mastzelles; on ne connaît pas encore les fonctions propres de chacun d'eux, sauf pour les cellules géantes. Celles-ci, qui sont un des composants des tissus buccaux, sécrètent une substance appelée héparine, et qui est un très puissant anti-coagulant. La présence en nombre des cellules géantes, empêche la coagulation du flot sanguin grandissant au site de la partie lésée, et maintient les vaisseaux sanguins libres de tout entrave.

Lester Cahn nous dit encore que la nature essaie de réparer les blessures de l'organisme simultanément avec la formation de l'exsudat. Il se fait un commencement de prolifération des jeunes cellules de soutien sur la périphérie de la réaction, ce qui tend à former une paroi de tissu fibreux; on réalise ceci dans le bord fibreux d'un granulome péri-apical. Une fois les bactéries enlevées, la réparation s'opère vraiment; la fibrine forme l'échafaud pour l'activité fibroblastique et la prolifération capillaire, et ainsi un tissu fibro-vasculaire remplace l'exsudat inflammatoire au site même de la lésion.

La pathologie des maladies péri-apicales ressemble en tout point à ce que

je viens de décrire; certaines lésions sont aiguës, d'autres chroniques; quelques-unes sont limitées par une paroi de tissu fibreux, d'autres sont diffuses et se répandent dans toutes les régions avoisinantes.

Les lésions aiguës sont des périementites aiguës et des abcès aigus alvéolaires; ici, l'irritant est beaucoup plus violent de sorte qu'il y a surabondance d'exsudat inflammatoire dans un espace limité, qui, en l'occurrence, est la membrane péri-dentaire, péri-apicale. Les tissus ont peu de chances de s'étendre, parce qu'ils sont pris entre le procès alvéolaire d'une côté, et le ciment de la racine de l'autre côté. Ainsi les vaisseaux sont rapidement étouffés et on a mort et dégénérescence des tissus. Ceux-ci nécrosés deviennent liquéfiés par la sécrétion d'enzymes protéolytiques opérée par les leucocytes polymorphonucléaires, et alors, on a formation de pus. Tant que le pus est ainsi confiné à la région apicale, l'écoulement peut se faire par la dent elle-même, mais si un obstacle quelconque s'oppose à cela, alors le liquide putréfié empruntera un conduit rencontrant le moins de résistance, ce qui sera, la plupart du temps dans la lame osseuse buccale du maxillaire ou de la mandibule. On a même vu, dans certains cas, un abcès pointer vers l'extérieur, c'est-à-dire dans la joue, ou se drainer dans l'intérieur, c'est-à-dire dans la voute palatine.

Fait surprenant, cependant heureux, la partie cutanée où se trouve la fistule redevient normale après évacuation du liquide pyogénique, et la douleur disparaît complètement, mais la partie nécrosée interne devra être curetée ou la source d'infection devra disparaître, si on ne veut pas de récurrence. Ceci ne signifie pas que la dent atteinte doit disparaître, car elle pourra toujours servir dans la fonction physiologique de la mastication.

D'après Coolidge, la classification des lésions péri-apicales se divise comme suit:—

Inflammation aiguë du tissu péri-apical.

Celle-ci peut être due à des causes

traumatiques ou chroniques ou micro-organiques.

Il peut y avoir une inflammation aiguë à la suite d'un accident quelconque—fracture d'une dent causée par une chute. On peut encore avoir lésion par irritation causée par la présence d'une pointe de gutta percha ou d'argent dépassant l'apex dans les traitements de canaux.

L'emploi de certains médicaments peut aussi amener une inflammation aiguë; tous les médicaments à base d'arsenic sont absolument contre-indiqués dans le traitement des dents. C'est ainsi que l'obturation antérieure préfabriquée chez la plupart des membres de notre profession, le "filling porcelain" ou "silicate cement", provoquent une lésion presque fatale de la pulpe dentaire, si cette obturation touche directement à la dentine.

Enfin, l'inflammation aiguë péri-apicale peut fort bien être causée par la pénétration microbienne en provenance de la chambre pulpaire des tissus péri-apicaux. Les microbes proviennent de la chambre pulpaire, et en sortent par l'apex; certains de ces microbes sont formateurs de gaz, et ainsi sont responsables de la poussée des autres bactéries.

Selon encore Coolidge et Lester Cahn, les lésions chroniques péri-apicales sont le granulome, l'ostéite diffuse, le kyste radiculaire et l'abcès alvéolaire chronique. Cet état chronique est, dans la plupart des cas, la séquelle normale des abcès, péri-apicaux aiguës. L'abcès, une fois la fistule établie, passe au stade chronique; l'excès de pus en formation provoque la réouverture de ce conduit.

Dans d'autres cas — obturations de porcelaine sur dents antérieures, la pulpe atteinte passe de mort à vie, dégénère, et une lésion chronique se crée sans aucune manifestation extérieure.

Les constituants du granulome sont des phagocytes, (cellules du plasma), et les lymphocytes. On voit sur la périphérie du granulome, une sorte de tissu fibreux qui se mêle avec la membrane péri-dentaire. Ce spectacle, si on peut ainsi dire, nous donne l'effet d'un mur de défense tenant en échec les micro-organismes envahisseurs, surtout si on considère le

fait que le granulome est lui-même entouré d'une mince couche osseuse.

L'ostéite diffuse est plus complexe—ici plus aucune délimitation de zone; on voit des prolongements infectieux en forme de doigt. Les réactions défensives ne sont pas assez puissantes pour créer une membrane protectrice qui puisse arrêter l'invasion microbienne; néanmoins, on y rencontre toutes les cellules vues dans l'exsudat inflammatoire, à ceci de différence qu'il s'y trouve plus de lymphocytes polymorphonucléaires que dans le granulome. Il y a du tissu nécrosé, qui incidemment est transporté d'une nouvelle manière; il est liquéfié, et le pus formé se draine à intervalles répétés. L'os nécrosé est transporté par les cellules géantes (ainsi que l'apex nécrosé de la dent).

Le kyste radiculaire est une lésion circonscrite, mais dû à certains facteurs cythologiques, il en diffère beaucoup. Dans toute membrane péri-dentaire, on rencontre des petits éléments de cellules épithéliales; ceux-ci constituent une partie des débris épithéliaux de Malassez. Si un groupe de ces cellules vient en contact d'un granulome en formation, celles-ci sont stimulées dans leur croissance et prolifération. A un certain temps, vu un manque de nutrition, les cellules épithéliales centrales se liquéfient, et il se forme un sac bordé de cellules épithéliales, plein de liquide kystique.

L'abcès chronique alvéolaire est un amas de pus nucléé dans la région apicale; il commence tout probablement par un granulome ou un petit kyste dont le contenu devient nécrotique et liquéfié; cette modification est due à l'action enzymatique des polymorphonucléaires leucocytes; ici, la membrane périphérique est plus oedémateuse que celle du granulome ou kyste, et contient plus de phagocytes et de jeunes fibroblastes. Elle est plus communément appelée membrane pyogénique. Cependant, l'abcès chronique alvéolaire mentionné ci-haut, peut être passé par le stage aigu dont les symptômes ont été allégés par un drainage partiel; les tissus purent encercler le liquide pyogénique présent, et former

ainsi une membrane dite pyogénique.

Les symptômes de ces différents états pathologiques et chroniques sont assez variables, mais tous, sauf dans les cas d'abcès aigu, seront plus certainement diagnostiqués au moyen de la radiographie.

Mead prétend que toutes les dents sur lesquelles on a traitement de canal, décoloration, couronne complète, ou très grosses obturations, doivent être radiographiées pour confirmer leur état pathologique ou sain.

Le granulome, lui, ne présente aucun symptôme extérieur, à moins qu'il ne passe à l'état aigu, ce qui est peu fréquent. Voici une radiographie démontrant bien l'aspect d'un abcès chronique sans aucune manifestation extérieure, c'est-à-dire sans fistule externe et sans douleur. (Fig. 1)



Fig. 1

Comme on le voit, l'apex de la centrale est entouré d'une zone de raréfaction apicale; il y a eu décalcification évidente des cellules osseuses entourant l'apex, décalcification prouvée par mortification de la pulpe.

Traitement Proposé:

Plusieurs auteurs préconisent des traitements différents. Lester Cahn prétend avoir une confiance inouïe dans l'exsudat inflammatoire, qui, selon lui, peut faire disparaître l'infection présente. "Si," dit-il, *"le canal pulpaire est fermé hermétiquement à toute pénétration extérieure, ce même exsudat inflammatoire se chargera d'éliminer toute lésion aigüe ou chronique."*

Cependant, il peut y avoir certains cas, où la nature, si forte soit-elle, ne peut débarrasser, seule, l'organisme de ces états pathologiques. C'est pourquoi, d'autres opinent différemment, et l'expérience semble confirmer leur opinion à ce sujet, à savoir que les lésions chroniques ne sont vraiment éliminées que par un curetage radical. Curetage à la fois de la région lésée et de la dent, puisqu'ils ont recours à l'apectomie.

Ce traitement, comme on le sait, consiste à inciser la muqueuse, à localiser l'apex de la dent atteinte, à couper cet apex, et à cureter la région.

Si on considère cet aspect, on ne peut critiquer cette méthode; c'est une méthode chirurgicale radicale. Les expériences de Blum démontrent le succès des opérations dans une proportion de 98%. Et Coolidge nous apporte son témoignage puissant dans ses expériences personnelles, où il prétend obtenir réparation complète dans un très grand nombre de ses cas, pour ne pas dire la majorité.

Mais il y a encore perte de structure de la dent; nous avons ici à faire face à un problème purement mécanique, car la rétention de la dent dans l'alvéole repose sur la quantité de tissu osseux entourant la racine.

Hatton dit, et je cite: *"C'est mon impression que certaines causes d'insuccès dans ce domaine, peuvent être expliquées d'une façon mécanique; il peut y avoir un manque sérieux de collaboration entre les forces appliquées sur la couronne d'une dent et la position relativement nouvelle de cette même dent dans son alvéole, à la suite de l'enlèvement chirurgical de son apex."*

Personne ne peut prévoir si une dent traitée ainsi par l'apectomie, n'aidera pas

un jour à la formation de quelques maladies propres à elle-même, comme la périodontoclasie ou récession alvéolaire; on ne peut juger absolument la valeur de quelques millimètres d'un apex d'une dent, mais il semble que si on pouvait se livrer à un traitement par lequel on parviendrait à conserver la dent dans son intégrité, tout en éliminant radicalement toute trace d'infection, alors ce même traitement aurait d'autant plus de valeur qu'il serait conservateur en tout point.

L'amputation de l'apex s'impose, il est entendu, dans le cas où il y a nécrose de ce même apex, mais encore ici, on a une tendance marquée à couper plus de tissu dentaire qu'il n'est nécessaire; le seul prétexte semble être d'empêcher toute récurrence inflammatoire. Il semble qu'alors la théorie de Cahn s'applique dans le cas où on aurait laissé quelque fragment de tissu nécrosé. L'exsudat inflammatoire peut fort bien s'en charger, et éliminer toute cause possible d'infection nouvelle. Cette même amputation est encore nécessaire dans les cas d'énucléation des kystes radiculaires, mais encore ici, comme dit Levine, on coupe trop bas, c'est-à-dire à la base de la cavité kystique. L'on doit toujours se rappeler que l'attachement de la membrane kystique à la dent se fait généralement à l'apex et que ce même attachement est prolongé entre la membrane péri-cémentaire de la dent attaquée, et la dent voisine.

D'autres auteurs, comme, S. L. Baron, J. H. Crook et B. Gotlieb, préfèrent le curetage péri-apical à l'apectomie pour l'ablation de tissu nécrosé entre la dent et l'os, et sur la dent elle-même, après le traitement de canal. Selon eux, le tissu nécrosé sur les bords de la circulation attire les micro-organismes du flot sanguin, et la nature peut difficilement les éloigner, c'est-à-dire les enlever, même si le tissu est stérile vu son encerclement par une membrane fibreuse.

La solution pratique: enlever ce tissu lésé avec des curettes; ceci est plus sûr que d'essayer de le stériliser avec certains médicaments dont l'effet peut avoir des répercussions plus ou moins fâcheuses.

Ces mêmes auteurs prétendent, et je cite:—

"Nous croyons qu'une solide couche de ciment prévient toute communication des tubuli dentinaires avec le tissu péri-apical. Ce tubuli peuvent ou non être remplis de sels calcaires; s'ils le sont, alors ils présentent une surface solide," probablement égale à celle de la nature du ciment. Ceci est apparemment à la base des excellents résultats histologiques publiés par Coolidge, lesquels prouvent que du ciment s'est déposé sur la section transversale d'une dent ayant subi un traitement d'apectomie."

Mais si les canalicules ne se sont point calcifiés avant la présence d'infection, ceux-ci seront envahis par les micro-organismes, et présenteront aux tissus adjacents une surface infectée. Ces mêmes tissus sont irrités, et ni la dentine solide, ni les tissus en voisinage immédiat sont dans une condition où un dépôt de ciment sur la dentine exposée peut se faire.

Kronfeld, dans un rapport sur certains insuccès par apectomie, illustre par des photographies le dépôt de nouveau ciment sur une section transversale de ciment, mais non sur une coupe transversale de dentine. En fait, le dépôt de ciment s'arrêtait au join cémento-dentinaire.

Comme on le voit, l'apectomie, même si elle offre les plus grandes chances de succès, pose parfois des problèmes assez ardues. Mais de tous ces auteurs consultés sur le curetage péri-apical, seuls Grossman et Levine préconisent le traitement du canal pendant l'opération elle-même. Levine fait une application de nitrate d'argent à l'apex même, et obture son canal par l'apex.

L'emploi du nitrate d'argent est sans doute bon, mais il me semble quelque peu dangereux. Car qu'une infime partie de cette puissante drogue tombe dans la cavité osseuse, et on voit d'ici la nécrose qui peut s'ensuivre.

Quant à obturer le canal par l'apex, l'accès me semblerait quelque peu difficile; on aura un résultat tout aussi excellent si on pénètre le canal par le talon même de la dent.

Technique:

Si nous nous considérons comme chirurgiens-dentistes, nous devons observer l'un des principes cardinaux de la chirurgie, qui est de localiser le foyer d'infection en premier lieu, et établir subsequmment une voie de drainage pour le tissu infecté. Et cette localisation ne peut être absolument obtenue sans le concours de la radiographie; d'aucuns peuvent prétendre se passer de ce guide se fiant sur la localisation de la fistule—si fistule il y a. Il est vrai que dans une grande proportion des cas, la voie de drainage se trouve dans la plaque osseuse buccale ou vestibulaire, vis-à-vis l'apex de la dent atteinte, mais rien ne peut nous certifier que la région infectée n'est pas mésiale ou distale à cette fistule.

Pour les régions antérieures ou postérieures, il est toujours préférable de prendre plus d'une radiographie. Habituellement, nous avons deux ou trois photographies suivant le cas, sous différents angles. Dans un cas de centrale, nous prenons toujours un film mésial et distal à la région infectée, ceci pour contrôler l'étendue exacte de cette infection, et pour vérifier la nature des tissus adjacents à l'abcès. Une pose prise directement sur la dent atteinte est aussi nécessaire pour nous donner la condition exacte de l'apex de cette même dent, c'est-à-dire pour savoir s'il est nécrosé ou non.

Cette opération faite, nous pénétrons dans la dent pour arriver à la chambre pulpaire, à l'aide d'une fraise ronde, (2), et d'une fraise à fissure (558). Le patient ne ressent aucune douleur, vu la dégénérescence pulpaire; après avoir nettoyé aseptiquement le canal, on y insère une mèche imbibée d'eugénol ou de tricrésol ou encore de para-mono-chlorophénol. On laisse dépasser cette mèche au talon, et on met une pâte d'eugénol ou d'oxyde de zinc en place sur la périphérie. Ainsi la chambre pulpaire demeure ouverte et les gaz formés par l'abcès péri-apical peuvent s'échapper. Nous demandons au patient de revenir au bout de quarante-huit heures. Au rendez-vous suivant, nous procédons à l'opération chirurgicale.

La meilleure condition d'un travail prompt, efficace et précis, est une anesthésie profonde. Les différents auteurs consultés sur le sujet du curetage péri-apical prévoient d'excellents résultats, à l'unique condition toutefois que le tissu nécrosé soit complètement cureté.

Pour se livrer à ce travail délicat, la coopération du patient est essentielle, c'est pourquoi l'anesthésie locale est préférable à l'anesthésie générale.

On ne saurait trop insister sur le fait de préparer notre patient. L'administration d'un barbiturique le calme, et lui enlève toute appréhension. On donne ordinairement du Nembutal, $\frac{3}{4}$ de grain, ou $1\frac{1}{2}$, selon son poids, et aussi selon le sexe du patient.

La solution anesthésique de notre choix est une solution de procaine à 2% ; certains auteurs préconisent l'addition d'adrénaline pour obtenir une solution à 1/50,000 pour chaque CC.

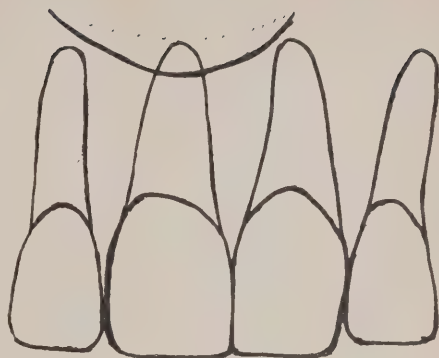
Pour obtenir une insensibilisation absolue, on peut recourir à différentes anesthésies : infiltration sub ou sus-périostéale, anesthésie régionale par le trou sous-orbitaire, (sup.ant.), ou par une mandibulaire (région inférieure).

Nous avons toujours obtenu les meilleurs résultats au moyen de l'infiltration sous-périostéale, (pour régions antérieures).

Nous préférons toujours anesthésier mésialement et distalement à la région où l'on doit opérer ; et l'insensibilisation est complétée par l'injection de la solution dans la région palatine ; nous déposons environ $\frac{1}{4}$ de CC, à cet endroit.

Cette anesthésie sub-périostéale a plusieurs avantages sur l'infiltration sus-périostéale :—

- a) l'anesthésie profonde est certaine.
 - b) elle requiert moins de solution que dans la sus-périostéale.
 - c) dans cette dernière, la solution anesthésique est absorbée dans le courant sanguin et lymphatique trop rapidement, car on rencontre ici une région très vascularisée.
 - d) de plus, avec l'infiltration sus-périostéale, nous n'obtenons presque pas d'œdème post-opératoire.
- Après avoir constaté la qualité de



Dessin No 1

l'anesthésie, nous commençons l'opération proprement dite :

L'incision sera faite en demi-lune, s'étendant largement, mésialement et distalement à la dent concernée. (Dessin No 1)

La courbe convexe du lambeau est dirigée vers la couronne. Le lambeau est relevé et favorise une accès commode. Nous séparons avec un décortiqueur la muqueuse du périoste, alors la paroi osseuse paraît bien en vue. Puis, à l'aide d'un ciseau de largeur moyenne, et du marteau, nous procédons à l'enlèvement de la lame buccale osseuse ; il ne faut pas frapper sur le ciseau avec trop de force afin de contrôler sa direction.

Ici certains auteurs préfèrent l'emploi de la fraise chirurgicale ; je ne veux pas discréditer cette méthode, évidemment, le fait de frapper avec un marteau peut occasionner aussi un certain traumatisme, mais si on ne donne que de petits coups, précis, le patient ne saurait trop s'en plaindre.

L'apex de la dent découvert, alors on se sert d'une fraise pour agrandir l'ouverture ; habituellement, nous sommes en présence d'une région nécrosée dans laquelle se trouve le tissu infecté.

A l'aide de curette bien tranchante, nous curetons cette région jusqu'à ce que nous ayons atteint le fond de la cavité c'est-à-dire l'os sain ; il faut à ce moment contrôler le curetage, c'est-à-dire constater si on a atteint région postérieure à l'apex de la dent ; sinon, il faudra se créer une voie d'accès en élargissant la cavité.

Une fois rendu à ce stage, on place une petite boulette de coton en arrière de l'apex pour absorber tout afflux sanguin possible, puis on ouvre le canal de la dent; il est à noter que ce canal a été complètement nettoyé, au moins deux jours avant l'opération.

On se sert de coton (Absorbent Cotton Points de Johnson, ou autre), imprégnées d'alcool pour les premières, puis sèches en dernier lieu; il faut toujours s'assurer que la pointe soit à l'apex. On obtient une stérilisation immédiate grâce à l'alcool à 95%.

Puis on obture le canal à l'aide de pointes de gutta-percha trempées au préalable dans le chloro-percha.

On commence par insérer une pointe d'un diamètre plus gros, on l'enfonce avec un fouloir jusqu'à ce qu'on la voit dépasser l'apex; puis on en insère d'autres jusqu'à obturation complète. Alors, à l'aide d'une spatule chauffée légèrement, on brunit l'apex de sorte que l'ouverture apicale soit hermétiquement fermée.

Pendant tout le temps de cette opération, il faut toujours surveiller la cavité osseuse pour éviter tout afflux sanguin, susceptible de tremper le canal stérilisé et propre.

Après obturation du canal, il faut prendre une radiographie pour contrôler le travail accompli jusqu'ici.

Alors, on fait un lavage au MNO⁴K, ou au sérum physiologique, pour enlever tout débris osseux; on assèche la cavité pour badigeonner ensuite les parois de teinture de métaphen à 1/200.

Pour les points de suture, le nombre dépend de l'étendue de la plaie; ordinairement, nous nous en tenons à trois; un central, et deux, mésial et distal à la dent.

Ces points sont faits avec un fil de soie de grosseur 000; nous employons le Deknatel; le catgut sera surtout employé dans le cas des enfants ou pour certains patients qui ne peuvent absolument revenir.

L'insertion d'une mèche de gaze iodoformée dans la cavité s'impose dans tous les cas; on sait que la condition d'une bonne guérison dans toute plaie, est le comblement de la cavité par le fond. La

mèche iodoformée empêche les lèvres de la plaie de se refermer, à un certain endroit.

Nous appliquons une pâte d'oxyde de zinc-eugénol dans la partie de la cavité située dans la couronne de la dent, par-dessus l'obturation de la chambre pulpaire.

Avant de renvoyer le patient, il faut le prévenir de toutes les complications possibles; il doit s'attendre à un oedème marqué dès la journée suivant l'opération; il peut même voir apparaître, dans la région de l'opération, une ecchymose qui peut durer deux ou trois jours, et parfois plus longtemps.

On recommande toujours des applications de froid jusqu'au coucher, puis des compresses d'eau chaude le lendemain, et cela jusqu'à disparition complète de l'oedème.

Toute la durée de l'opération, le patient devra mordre sur une gaze stérile repliée en quatre parties; ceci facilite le relâchement du muscle orbiculaire.

PRESENTATION DE CAS:

CAS NO 1.

Un patient se présente, se plaignant de douleur vive et constante vis-à-vis la

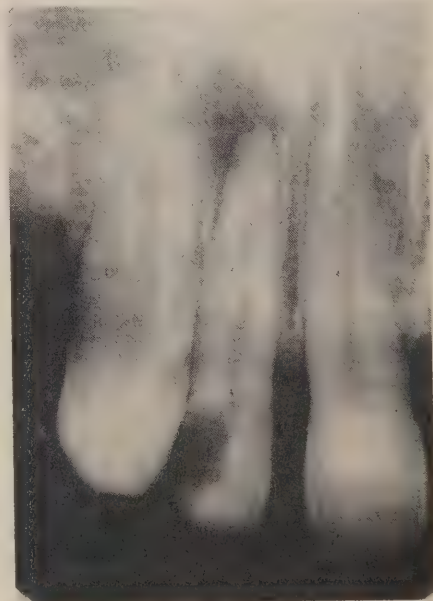


Fig. 2

latérale gauche supérieure. A l'examen extérieur, je constate la présence d'une large cavité occupée antérieurement par un silicate. Il n'y a pas d'oedème présent. La radiographie confirme mon diagnostic. (Fig. 2):

Comme on le voit, la cavité touche à la pulpe ou à ce qui reste de cette pulpe dégénérée. L'apex de la latérale plonge dans une zone sombre qui indique la présence d'infection. Il semble que nous ayons affaire ici à un granulome vu la membrane située dans la portion inférieure distale, à l'apex. Cet apex n'apparaît cependant pas nécrosé. La membrane périodentaire n'apparaît pas sur le film.

Voici maintenant un film pris immédiatement après l'opération (Fig. 3):



Fig. 3

La zone sombre est encore présente, le fond de la cavité est traversé par certains points noirs et blancs qui sont des pores osseuses, et ce qui nous démontre que la cavité est vide de tout tissu nécrosé. De plus, il est à noter que le canal est hermétiquement fermé à l'apex, donc toute possibilité de réinfection par cette voie est éliminée.

Comme réaction post-opératoire, on

note oedème dans la région durant deux jours, peu de douleur, sensibilité de la dent voisine (périostite).

Voici maintenant une photo prise deux mois après l'opération (Fig. 4):



Fig. 4

Il y a régénération osseuse, régénération non complétée, soit, mais cependant en bonne voie de formation.

La cavité semble comblée par des cellules osseuses qui contribueront à la formation définitive d'os.

CAS NO 2

Un jeune homme, âgé de 18 ans, se présente chez moi, vers le 16 septembre 1947; une radiographie générale me fit découvrir à l'apex de la centrale droite supérieure une large zone sombre avec délimitation nette, c'est-à-dire une membrane de tissu fibreux sur la périphérie. Voici cette région (Fig. 5):

J'en informe le patient, et lui demande s'il n'avait jamais ressenti une douleur dans la région antérieure du maxillaire. Sur une réponse négative, je conclus à un abcès chronique sans aucune manifestation extérieure. Un examen local me démontre une petite ulcération à la mu-

*Fig. 5*

queuse, vis-à-vis l'apex de la centrale; avec une petite sonde, je pénètre jusqu'à une profondeur de quatre millimètres; c'est indubitablement une fistule.

*Fig. 6*

Je conseille un curetage, mais le patient préfère attendre; il revient au mois de mars 1948, se plaignant d'une certaine douleur dans la région apicale de la centrale. Il éprouve un élancement dans l'oeil droit, puis, dit-il, la douleur se généralise à tout le côté droit de la tête.

L'opération s'impose; elle est exécutée le 16 mars 1948. Voici un film pris le jour même du curetage (Fig. 6):

L'apex de la dent a été bruni; il semble avoir meilleure apparence ici que sur la première radiographie. La région noire est encore là, mais c'est une cavité osseuse saine et non un granulome entouré d'une membrane; d'ailleurs on voit ici des lignées de points noirs et blancs qui nous semblent être des travées osseuses.

Voici un film pris deux mois après notre opération (Fig. 7):

*Fig. 7*

A première vue, la récupération osseuse semble moins complète que dans le premier cas, mais il faut se rappeler que dans certains cas, il n'y a obturation complète de la cavité que plusieurs mois après l'ablation de tissu nécrosé. On peut donner donc comme moyenne générale pour une guérison complète, de six mois à un an.

Considérations Personnelles:

Je voudrais ici poser quelques observations personnelles constatées au cours de mes travaux.

Ainsi, j'ai noté la grande sensibilité de certains patients lors du curetage du granulome, et ce, malgré l'anesthésie la plus profonde. Cela provient du fait de la grande congestion existant au site de ce granulome; il y a un chambardement formidable dans le métabolisme de la circulation sanguine en cet endroit, c'est ce qui fait que dans certains cas, la sensibilité persiste malgré tous nos efforts.

—De plus, même si la dent est déjà largement entamée dans sa structure par la présence d'une cavité, site d'une obturation antérieure, il est toujours préférable de pratiquer un orifice au talon de la dent si on veut obtenir un accès facile au canal radiculaire.

—Tout travail subséquent devant être pratiqué sur la dent traitée pourra être exécuté dans un délai d'une ou deux semaines après l'opération, ceci s'applique dans les cas où une couronne complète avec corps coulé sera mise en place.

—Il y a certaines contre-indications pour curetage périapical, ainsi dans les cas suivants où:—

- 1—le patient est faible, anémique ou en convalescence à la suite d'une maladie grave.
- 2—les dents postérieures seront concernées; la facilité d'accès est moins grande dans les régions des bicuspides et des molaires, et les conditions de succès sont plus douteuses.

—Peut-être pourrait-on admettre un curetage dans la région des premières bicuspides, mais je ne saurais me compromettre pour les régions des molaires.

—Nous prévenons toujours nos sujets d'une certaine sensibilité subséquente à l'opération sur les dents adjacentes; cette périostite bénigne est causée par un certain traumatisme dans les régions apicales osseuses adjacentes à l'apex de la dent concernée dans l'opération.

Discussion et Conclusion

Il faut toujours considérer une question discutée sous différents angles; ainsi

dans le problème qui nous concerne, c'est-à-dire le curetage péri-apical, si nous avons quelques désavantages, nous rencontrons cependant de nombreux avantages.

J'admets que la stérilisation dans ce traitement est assez difficile; en premier lieu à cause de la salive, et deuxièmement par suite du suintement sanguin.

C'est pour empêcher la pénétration salivaire de la plaie provoquée par notre incision que je demande au patient de mordre sur plusieurs gazes repliées sur elles-mêmes; de plus, il est absolument essentiel de relever la lèvre pour éviter tout contact possible avec la région opérée, et ceci tout le long de l'opération.

Le suintement sanguin semble venir compromettre le succès de l'obturation aseptique du canal; mais on peut toujours provoquer une hémostase en appliquant une boulette de coton imbibée d'un agent coagulant — nous employons habituellement la thromboplastine et en appliquant une grande pression, il n'y aura aucun suintement à l'intérieur du canal une fois celui-ci nettoyé et stérilisé à l'alcool.

Plusieurs auteurs ont objecté que la vue était obstruée par la présence de l'apex; je ne vois pas qu'il soit nécessaire de pratiquer une apéctomie sous le simple prétexte de la vision. Il y a toujours moyen d'atteindre le fond de la cavité en faisant une ablation d'os mésialement et distalement à l'apex concerné; pour ma part, ce fait n'est jamais venu en rien compromettre le succès de mon opération.

Mais, à toutes ces difficultés, s'oppose un avantage que personne ne peut contester; il consiste en ce que l'ablation du tissu infecté n'est pas laissée aux soins d'un médicament ou drogue aux propriétés plus ou moins efficaces. Je crois, je pourrais même affirmer que le seul moment où l'on peut être absolument certain du succès de l'apéctomie, est celui où l'on tient le tissu infecté au bout de notre curette. Il n'existe aucune drogue, aucun agent antiseptique qui puisse agir avec la même efficacité que la curette chirurgicale; c'est un des principes cardinaux de toute opération thérapeutique que celui de faire disparaître radicale-

ment la cause de toute affection anormale touchant l'organisme humain.

De plus, le curetage péri-apical conserve une certaine supériorité sur l'apex-tomie, en ce sens qu'il permet à la dent de conserver sa structure anatomique complète et intacte; encore ici, je ne veux point contester l'opportunité de l'apex-tomie, mais, s'il y a possibilité de trouver une solution concordante avec les besoins de l'organisme humain, à quoi bon s'obstiner à suivre les vieilles traditions.

La science est prometteuse, soit, mais elle ne livre ses secrets qu'à ceux qui savent sonder ses profondeurs. Elle avancera en autant que ceux qui se livrent à son étude sachent se libérer de ce vieil empirisme qui a failli empêcher de grandes découvertes.

Je ne veux point prétendre crier "Euréka" au grand problème qui nous concerne ici, mais j'espère que mes quelques expériences et mon exposé puissent un jour poser un jalon de plus au progrès de la merveilleuse science médicale.

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3566 av. du Parc

Nouvelles de la Faculté de Chirurgie Dentaire

M. le docteur Ernest Charron, doyen de la faculté, a été nommé président de l'International College of Dentists, une organisation, qui groupe les dentistes de tous les pays, dentistes, qui se sont distingués dans le domaine des recherches, de l'enseignement ou de l'organisation professionnelle.

M. le docteur Conrad Archambault, "25", professeur de Déontologie à la faculté de Chirurgie Dentaire, vient d'être nommé par le Conseil des Gouverneurs, représentant (catégorie "C") de l'Université au sein du Conseil Municipal de la ville de Montréal.

Au cours du mois de novembre 1950, la faculté de Chirurgie Dentaire offrait à la profession dentaire un cours d'une semaine en Anesthésie et Chirurgie buc-

cales. A cette occasion, le personnel de ce service était assisté des Drs Kurt H. Thoma, de Boston, qui est reconnu comme une autorité mondiale dans le domaine de la pathologie buccale; Daniel H. Holland, professeur de chirurgie buccale au Tufts Dental School, de Boston; Harry M. Seldin, qui est ancien professeur à la New York University et qui est l'auteur de manuels bien connus dans cette sphère. Une trentaine de dentistes, venant de toutes les parties du Canada, ont suivi avec intérêt et profit ces assises scientifiques.

Durant le mois de janvier, la faculté a reçu la visite de trois membres du Conseil d'Enseignement Dentaire de l'Association Dentaire Canadienne. Ces délégués ont passé deux jours à enquêter sur les disponibilités matérielles et péda-

gogiques de notre faculté. Ses différents services furent visités et inventoriés. Cette enquête est entreprise dans chacune des facultés dentaires des universités canadiennes pour déterminer la valeur de l'enseignement dentaire donné au pays et pour l'aider à l'améliorer. Quand toutes les facultés dentaires auront été visitées, le Conseil d'Enseignement Dentaire présentera un rapport au Bureau des Gouverneurs de l'A. D. C., qui verra alors à uniformiser cet enseignement et à faire des suggestions pour le rendre plus efficace.

M. le docteur Gustave Ratté, "29", de la ville de Québec, délégué de la province de Québec au Bureau des Gouverneurs de l'Association Dentaire Canadienne et membre de l'Exécutif de cette même association nationale, vient d'être nommé Fellow of the American College of Dentists. Cette distinction, dont est l'objet le Dr Ratté, reconnaît son travail inlassable dans le domaine de l'organisation professionnelle.

M. le docteur Vincent Tremblay "48", après avoir passé une année complète dans les services d'endodontie, des recherches et de dentisterie opératoire de la faculté

dentaire de l'Université de Michigan, vient d'être nommé chargé des cours théoriques et cliniques d'Endodontie du service de Dentisterie Opératoire de la faculté.

Le Conseil des Gouverneurs a ratifié les recommandations suivantes du Conseil de la faculté dentaire:

Titulariat en Chirurgie buccale : Dr Gérard de Montigny

Aggrégation en Dentisterie opératoire : Dr Hervé Deschênes

Aggrégation en Anesthésiologie : Dr Antoine Raymond

Aggrégation en Orthodontie : Dr Onil Hébert

Aggrégation en Couronnes et ponts : Dr Médéric Robichaud

Aggrégation en Couronnes et ponts : Dr Henri Brouillet

Aggrégation en Dentisterie opératoire : Dr Jacques Olivier

Aggrégation en Prothèse : Dr Jean Nadeau

Aggrégation en Prothèse : Dr Camille Patenaude

Aggrégation en Hygiène dentaire : Dr Amherst Hébert

Aggrégation en Matière médicale : Dr Jean-P. Lachapelle.

Coupures de Journaux

De Libération (6/6/50):

La coquetterie en correctionnelle

Elle voulait des dents de star, elle eut une mâchoire de cheval

(Compte-rendu d'audience de Madeleine Jacob)

Les bouches démesurées de certaines stars qui sourient sur les couvertures des magazines, les affiches et les écrans, et dont le sex-appeal, selon le canon de beauté hollywoodienne, paraît devoir se signaler à l'attention des amateurs par l'immodeste épaisseur des lèvres et la puissance de la denture, incitaient Mlle Loglou à soupirer de dépit lorsqu'elle constatait la nature ne lui avait donné qu'une bouche et des dents "comme tout le monde."

"Foin des aïeules," pensait-elle, qui croyaient, les sottes, que pour être belles, il convenait de prononcer chaque matin cent fois en s'observant devant son miroir: "Pruneau de Tours." Rien qu'à essayer, par jeu, cet exercice, Mlle Loglou avait la nausée.

Elle s'en fut trouver un dentiste grec, Athanas Ekonomou, à qui l'ordre des hommes de l'art dentaire conteste de droit d'exercer en France.

—Ekonomou est venu un jour chez mon père, dit la plaignante. Il a promis de

me doter d'une dentition de star contre deux paires de chaussures orthopédiques. Je suis allée chez lui. Il m'a scié trois dents et m'en a posé six autres... Monsieur le président, il m'a posé des molaires de cheval. Regardez...

—Je vous crois sur parole, s'empresse de dire le président, qui n'éprouve aucun plaisir à l'inspection à laquelle il est convié.

Las! le dentiste a-t-il trahi sa cliente? Il avait promis des dents de star. La jeune fille n'avait pas précisé si son idéal était Greta Garbo, Mae West ou Joan Crawford, si son seul but dans la vie était d'acquérir les incisives de l'une, les canines de l'autre et les molaires de la troisième. Il a fait pour le mieux en agissant selon son goût à lui. Or, il se trouve peut-être que la star préférée d'Athanas Ekonomou est Fernandel.

Voilà qui n'a point fait l'affaire de la malheureuse qui est, pour compléter son infortune, atteinte de gingivite purulante.

M de Moro Giafferri défend le dentiste: "Nul n'ignore, messieurs, la dent qu'a conservée la Grèce contre les chevaux depuis la guerre de Troie."

Quant à la partie civile, il ne lui reste qu'à démontrer que si la "victime" a pris le mors aux dents, elle avait pour cela quelque raison sans doute, dont Ekonomou aurait mauvaise grâce de s'étonner. Elle réclame 70,000 francs de dommages-intérêts pour préjudice esthétique. L'ordre des dentistes demande 100,000 francs.

Ce qu'on voudrait savoir c'est si, pour payer les dents de cheval posées à sa fille, le bottier a confectionné des bottes d'équitation?

Du Phare Egyptien, Alexandrie (25/6/1950).

L'Art dentaire chez les Egyptiens

L'art de soulager les maux de dents remonte, chacun le sait, à la plus haute antiquité.

Le document le plus ancien et le plus précis qu'on possède sur cette question est un document égyptien, le papyrus d'Ebers trouvé à Louqsor en 1873. Il constitue le plus vieux document de médecine connu, il a 20 mètres de long et le texte en est copieux. Ce papyrus est un recueil des différentes méthodes médicales qui se sont succédé dans la vieille Egypte, de période en période. On y trouve de nombreux remèdes contre l'inflammation des gencives et le mal de dents. Un des plus populaires consistait à pulvériser de la jusquiame et à la pétrir avec du mastic qu'on plaçait ensuite dans la partie supérieure de la dent malade. Nulle part, — c'est un fait curieux — il n'est fait allusion à l'extraction des dents, cependant, cette opération était pratiquée, puisqu'on la faisait subir parfois à certains criminels. A ce moment, la thérapeutique dentaire était encore grossière et c'est beaucoup plus tard (vers 550 av. J.C.) qu'elle deviendra un art en devenant l'apanage de spécialistes.

Dans la vieille Egypte, comme nous l'avons dit plus haut, les lois rigoureuses condamnaient certains criminels à la perte de leurs dents: il est donc naturel que ceux qui les perdaient naturellement aient recours à des spécialistes pour les remplacer et éviter ainsi de compromettre leur réputation d'honnêtes gens. D'ailleurs, ce qui le prouve bien, c'est qu'on a découvert, dans des sarcophages égyptiens, des dents artificielles grossièrement fabriquées, ainsi que certaines pièces prothétiques dans les bouches des momies.

Au point de vue chronologique, on peut citer, en passant, le mémoire de Nuei-King, qui a été écrit en Chine deux mille sept cents ans avant J.C., par l'empereur Houang-Ty et qui traite du mal de dents.

BESSIE Kaka-gon, from near Coppermine in the Western Arctic, wears the handsome koolitak complete with wolf and wolverine trim, and caribou skin pants, boots and gloves. It takes twelve or more caribou skins to make an Eskimo hunter's complete winter outfit.

She is one of the Copper Eskimos, called copper because when first discovered by the white man they were using implements made of native copper.

These people lead a nomadic life in the Barrens south and southeast of Coppermine and are dependent upon the caribou for clothing as well as food.

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NEW HEADQUARTERS BUILDING
OF THE CANADIAN DENTAL ASSOCIATION
234 ST. GEORGE STREET, TORONTO, ONTARIO
(See page 152)

The Journal

OF THE CANADIAN DENTAL ASSOCIATION

VOL. 17

TORONTO, MARCH, 1951

No. 3

Some Microscopic Aspects of the Cured Surface of the Cementum After the Subgingival Curettage*

by JULES THEBAUD, D.D.S., M.Sc., M.A., LL.L., F.I.C.D., F.A.P.H.A., Montréal, Quebec

THE curettement of the cemental surface being the first step in subgingival curettage, we believe that this procedure, so currently undertaken by the students as well as by the practitioners, should be microscopically recorded and analysed, taking in consideration, at the same time, the various histologic features brought up on the surface of that tissue. Some authors have expressed their opinions as to the efficiency of the routine planing curettage combined with the spot curettage, others have laid stress upon the inadequacy of curetting the cementum with the current scalers, which are considered too large for the removal of all the minute deposits.

However, no previous study has been

published yet in the dental literature with regard to microscopic details in this type of procedure, so as to record:

(a) The effect produced by the various instruments when used separately during the curettage.

(b) The combined effect of those instruments used in a conservative manner.

(c) The gouging of the cemental substance and the liability of its thinning at the gingival half when the instruments are overused or wrongly applied.

TECHNIQUE

Scaling and finishing were performed on teeth on which there was a certain amount of calcareous de-

PROCEDURE	Instrumentation on one side of the roots	Instrumentation on another side of the roots
A) Scaling	1) none (untreated cemental surface)	Hoe (only)
	2) none " " "	Hoe (overused)
	3) none " " "	Hoe (used without fulcrum)
	4) none " " "	Hoe and curette
	5) none " " "	Curette (only)
	6) none " " "	Curette (overused)
	7) Hoe	Curette
	8) Hoe	Hoe and Curette
B) Finishing	9) none (untreated cementum)	File (only)
C) Scaling and Finishing	10) Hoe	Hoe and file
	11) Curette	Curette and file

TABLE

*This investigation was supported by a grant-in-aid from the Associate Committee on Dental Research of the National Research Council of Canada.

posits, both supra and infra-gingival.

For scaling, we have used the ordinary hoes Nos. 3, 9, 7S and 9S, and the McCall's curettes Nos. 13, 14, 17, and 18 with the routine planing motions.

In the finishing process, we have used the ordinary cemental files. We have also recorded the combined effects of the scaling and the finishing process on the cementum surface.

Instrumentation was done in the order outlined in Table.

THE SCALING

Beside large and continuous masses of calcareous deposits over the roots, there are very many minute particles in which are imbedded some debris of the cementum cuticle and also adhesions of the detached fibres of the periodontal membrane.

This common condition in deep pockets explains the inaccuracy of the spot curettage technique, during which the fine concretions may remain untouched (fig. 1); while the routine planing, in which the curettement is performed in various directions makes it easier to detect and remove all periodental debris and concretions (fig. 2).

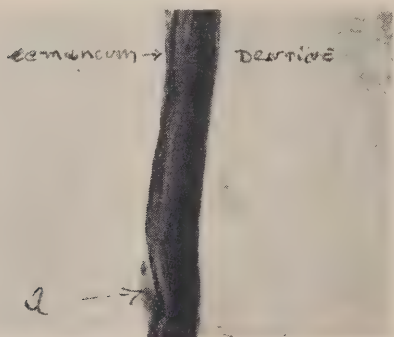


FIG. 1 (A) Calcareous deposits left "in situ" after a "spot curettage."

THE HOES—In scaling most of the deep pockets, the moderate use of the hoes is the first step to be recommended, as the exposed surface of the root can be slightly cleaved and readily refreshed in detaching the larger calculi.



FIG. 2 (Routine planing) Even and clear cut profile of a root curetted with the routine planing technique. 1) hoe, 2) sharp curette used for the scaling, and 3) dull curette for the polishing.



FIG. 3 (A) Uneven outline of the cementum scaled only with the hoe. (B) Regular outline of the cementum treated and finished with the curette.

It should be noted that the hoe has a tendency, even when it is properly applied, to leave an uneven surface (fig. 3) with very fine eminences, which should be scaled anew and finished with a curette.

The exposure of the dentine may occur when the scaling with the hoe is overdone without taking any precaution to establish a correct fulcrum rest (fig. 4). This created condition is not an obstacle to readaption or complete healing of the pocket. It is true then that the thinning of the cemen-



FIG. 4 (A) Irregular outline of the cementum and exposed dentine following the use of a hoe without proper fulcrum.

(B) Untreated cementum.



FIG. 5 (A) Thinned cementum scaled many times with a sharp curette (overused). (B) Same part of the root moderately treated with a curette.

tum is somewhat easily obtained when that instrument is overused.

THE CURETTES—As it is commonly believed, the curette is really the ideal instrument when used in planing motions for root curettement, especially when the most tenacious particles of calculus are previously removed with the hoe. When curetting is overdone with a very sharp curette there is a slight tendency of thinning and breaking the regular and smooth outline of the cemental substance (fig. 5).

A better polishing effect after the scaling can be obtained with a dull curette (fig. 2).

FINISHING OR POLISHING PROCEDURE

THE CEMENTAL FILES—The use of a cemental file to polish the root surface after a flap operation or a subgingival curettage is the less accurate way to polish the cemental surface, and certainly the quickest method to deteriorate that dental tissue in creating numerous excavations and an irregular surface, which are not quite suitable for tissue repair or readaption (fig. 6).



FIG. 6 Enlarged view of an irregular outline caused by the use of the cemental file.

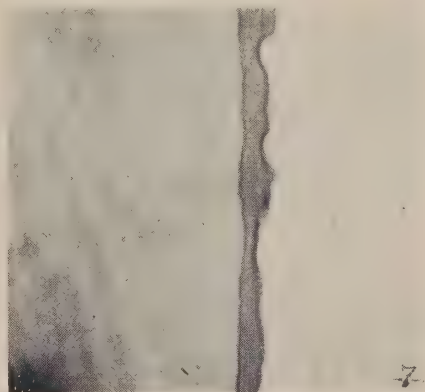


FIG. 7 Uneven and thinned cementum as the result of the rubbing of a carborundum disk.

Polishing, as mentioned above, is most readily obtained by using a slightly dull curette as shown in Fig. 2.

THE CEMENTAL FILE—To find out to what extent the file is liable to produce disintegration of the cementum, we have recorded for comparison, the effect of rubbing on the cementum a carborundum disk which is considered to be one of the most powerful grinding substances known in dental art (Fig. 7).

We have found that next to the carborundum, the file is the quickest

agent in attacking the cementum surface (Fig. 6). This instrument should not be used as a polishing agent.

Therefore the hoes should be used first. Next, the fine curettes should be used for the scaling and also some dull curettes for the polishing (with a burnishing effect); these seem to be the ideal instruments for the treatment of the cemental wall of the pocket.

ANNOUNCEMENTS

UNIVERSITY OF TORONTO, FACULTY OF DENTISTRY

Continuation Courses for Graduates in Dentistry

ORTHODONTICS, APRIL 9-13, 1951, FOR GENERAL PRACTITIONERS, UNDER THE DIRECTION OF DR. ROBERT E. MOYERS

It comprises a review of anatomical structure, the development of head and jaws, normal occlusion and in addition, the aetiology of malocclusion, tissue reaction during Orthodontic therapy and modern therapeutic methods for the interception of malocclusion. Sessions will be scheduled during which registrants may present practical cases for consultation and discussion.

Tuition Fee \$75.00

Enrolment Limit 10

PEDODONTICS, APRIL 16-18, 1951, FOR GENERAL PRACTITIONERS

Problems in preventive orthodontics, nutrition, public health, dental caries, and operative procedures are to be discussed.

The course will be under the general direction of Dr. S. A. MacGregor, and the guest clinicians will be Dr. Isaac Schour, Head of the Department of Histology and Associate Dean of Graduate Studies at the University of Illinois, and Dr. S. Hemley, Head of Department of Orthodontics at New York University.

Tuition Fee \$30.00

No Enrolment Limit

DENTAL ORAL SURGERY AND ANAESTHESIA, APRIL 23-27, 1951

This course will include a brief review of the fundamentals of surgery, including anatomy, pathology, physiology, radiography, etc. Instruction will be given in local and general anaesthesia and specific problems in Dental Oral Surgery. An effort will be made to deal specifically with the problems which confront the general practitioner in his office.

The course will be under the general direction of Dr. J. H. Johnson, and the guest clinician will be Dr. William Harry Archer, Professor of Oral Surgery and Anaesthesia, School of Dentistry, University of Pittsburgh.

Tuition Fee \$75.00

Enrolment Limit 12

PERIODONTICS, APRIL 30-May 4, 1951, UNDER THE DIRECTION OF DOCTORS H. K. BOX AND C. H. M. WILLIAMS

This course will include consideration of the nature of periodontal disease, examination and case management, pocket therapy, oxygen therapy, metabolic influences on the periodontium, significance and correction of occlusal function, gingival recession, pocket surgery, applications of principles of periodontal practice to operative and prosthetic procedure.

Tuition Fee \$75.00

Enrolment Limit 14

Inquiries should be addressed to the Dean of this Faculty.

THE OHIO STATE UNIVERSITY, COLLEGE OF DENTISTRY, announces the following schedule for its postgraduate courses in dentistry: April 2-6, General Anaesthesia; April 9-13, X-Ray; April 16-20, Full Denture Prosthesis; April 23-27, Clinical Oral Pathology; April 30-May 4, Periodontia; May 7-11, Oral Surgery; May 21-25, Crown and Bridge; May 28-June 1, Partial Denture Prosthesis; June 11-15, Anatomy of Head and Neck; Every Week Through May—Airbrasive Technique.

Each course is given for five consecutive days, and the fee for each course is \$50 with the exception of Oral Surgery and Airbrasive Technique which are \$100 each.

For further information apply to Postgraduate Division, College of Dentistry, Ohio State University, Columbus 10, Ohio.

Resistance Of Self-Curing Acrylic Resin To The Passage Of Dye Between Filling And Cavity Wall*

by G. A. BUCHANAN, D.D.S., B.Sc.(Dent), Winnipeg, Manitoba

WITH the advent of a new filling material, namely, a self-curing acrylic resin for direct restorations, the dental profession has high hopes that it may prove its worth and take its place with accepted and reliable materials. The profession is especially hopeful that it can at least prove itself superior to the silicate cements which appear to have many faults.

The dental literature^{1,2,3,4,5} contains numerous reports concerning the poor qualities of silicate cements, and suggestions for the handling of the material to minimize these faults. F. Wertheimer⁶, in reviewing the dental literature, has stated that discolouration is a major cause of failure and due to contraction, the silicate is the poorest material in use; that it lacks many qualities desirable in a permanent filling material. C. F. Franzwa⁷ states that resin filling material does not seem to have many of the shortcomings that we have been confronted with in the use of synthetic porcelain and he believes that with a little perseverance — it will gradually, if not rapidly, eliminate synthetic porcelain from the field it now occupies.

Vincent Tremblay⁸, who has reviewed the dental literature on the acrylic material, considers that at this time it would seem practical to consider these acrylic materials as possessing possibilities for service in limited types of restorations and in all cases they should be looked upon as being in the experimental stages of development.

On the other hand a few writers, with perhaps a little over optimism, recommend that the material be used in every type of cavity.

Some report that the new acrylic

should not be used for Classes I and II cavities as the hardness is much below that of dentine.

As in the case of all new dental materials, much research and many clinical tests over a period of time will be necessary to evaluate properly the qualities of this new, very promising filling material.

It is the consensus of opinion that with acrylic resin, a careful, definite technique is necessary, the filling must be inserted under pressure and that the pressure be maintained evenly throughout the entire hardening period. Malson⁹, Salisbury¹⁰, Franzwa⁷, Brodsky¹¹, have published excellent articles on techniques important for successful use of the material.

Lefkowitz, Seelig and Zachinsky¹² have made excellent histologic studies on the effect of self-curing acrylic on the dental pulp in comparison with the effect of other common materials. They report that the acrylic filling causes no reaction in the stroma of the pulp and that the total pulp response to the self-curing acrylic filling used in their study, including the trauma of cavity preparation, is less than the response due to any of the commonly used materials which served as controls, namely, silicate cement, zinc cement, cavity liners, zinc oxide and eugenol, gutta percha, or amalgam. They also report that the acrylic fill ing is insoluble in acid.

At the present time the self-curing acrylic resin appears to have the following qualities.

- 1) ease of handling
- 2) ease of colour matching
- 3) excellent aesthetics in finished filling
- 4) insolubility in fluids of the mouth

*Published concurrently in Treatment Services Bulletin.

- 5) insolubility in acids
- 6) resistance to stains
- 7) non-irritation to pulp

One of the requirements for a permanent filling material, according to Black, is the adaptability of the material to cavity walls. The question that now presents itself is, can shrinkage of the new plastic filling be controlled so that the joint of cavity wall and filling is impermeable to saliva?

It is the purpose of this article to consider this question, and to report on tests made in order to evaluate the resistance seal of the material to fluids.

Louis Grossman¹³ tested the permeability to dyes, saliva, and test organisms of various materials more commonly used as temporary fillings, and reported that due, apparently, to the viscosity of saliva the filling resisted the penetration of saliva better than of dye alone. It is assumed, therefore, that if a filling material seals a cavity so tightly that dye cannot penetrate, it would also seal a cavity against the penetration of saliva.

TEST I

In the experiment, glass tubes having inside diameters of 4.5 mm. and 5.5 mm. were used. The tubes were cut into lengths of 20 mm. and each tube filled with plaster of Paris. When the plaster was hard an amount was removed from the end of each tube to a depth of 3 mm. leaving a cavity in each tube to be filled by the materials to be tested.

The materials tested were a self-curing acrylic material produced by a well known and reliable company, and a silicate cement marketed by the same company.

Acrylic material was packed into 20 tubes (10 of them with an inside diameter of 4.5 mm. and 10 of an inside diameter of 5.5 mm.). A definite and careful technique was used with all fillings, which were mixed and placed by the same operator. The greatest amount of powder possible was added to the liquid to produce a dead pack

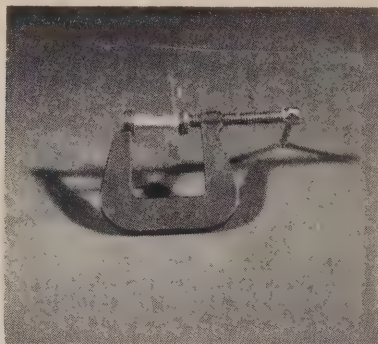


FIG. 1—C. Clamp

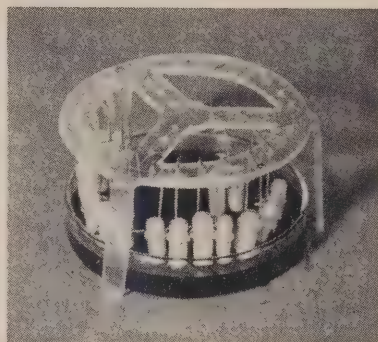


FIG. 2—Fillings suspended in dye.

consistency, and spatulation was completed in 30 seconds on a cool slab (65°-75°F). A fresh filling was mixed for each individual tube. As each tube was filled a resin strip was placed over the filling and pressure applied with a small C clamp, (Fig. 1). The pressure was maintained until the filling was set hard. It was found that the setting time at room temperature was 9 minutes from the time of insertion; but in each case before the removal of pressure, the set was checked by a sample of the material resting on the glass slab. When the pressure was removed the tubes were suspended in water so that the filled ends of the tubes were submerged. Twenty-four hours later the fillings were ground flush with the end of the tube, care being used to avoid heat. The tubes were then suspended in an

aqueous solution of methylene blue, the fillings being submerged, Fig. 2.

The control in the experiment consisted of an equal number of glass tubes (10 of a diameter of 4.5 mm., 10 of a diameter of 5.5 mm.) with fillings of silicate cement. Care was taken with the technique so that each sample would be the same and again the fillings were mixed and inserted by the same operator. Again, a new mix was made for each filling and a cold slab was used (65°-75°F). The largest amount of powder was mixed with a definite amount of liquid and the spatulation was completed within one minute. On insertion, a celluloid strip was placed over the filling and pressure applied with a C clamp, and maintained until the filling had set hard. It was found that at room temperature the silicate set in ten minutes. The time of setting was checked in each case with the sample remaining on the slab. When the filling had hardened, pressure and strip were removed and varnish was applied to the filling and the end of the tube. The varnish was allowed to dry and the tube was suspended in water with the filling submerged. Twenty-four hours later the fillings were ground flush with the end of the glass tubes, using sandpaper discs well coated with cocoa butter. In grinding the fillings care was taken to avoid heat. The tubes were then suspended in the aqueous solution of methylene blue with the fillings submerged.

The tubes containing both types of fillings were inspected at intervals of fifteen minutes, up to the first hour; after the first hour they were inspected at intervals of one hour up to twelve hours; and after the twelve hour period a final check was made after the fillings had been submerged for twenty-four hours.

The results at the various intervals are shown in Table I.

OBSERVATIONS

It was interesting to note that the dye passed by the silicate fillings and reached the plaster of Paris evenly around the whole circumference, and the colour gradually rose in the plaster much as liquid rises in a glass being filled. The tests with acrylic showed the dye to penetrate slowly at one point only to appear in the plaster of Paris at one spot the size of a pin-head, and slowly spread from there.

The plaster above the acrylic in all samples was dyed at the end of 24 hours but the degree of colouration was different from that of the dyed plaster above the silicate fillings. In the case of the acrylic tests the plaster was a pale blue; while in the case of the silicate tests the plaster was more intensely dyed.

From the experiment it would appear that the acrylic fillings resisted the passage of dye to a greater extent than the silicate fillings.

It is noted from the literature that Paffenbarger, Shoonover and Souder

TABLE I—Leakage of Fillings in Glass Tubes

Numbers shown in table indicate fillings out of a total of 20 allowing penetration of methylene blue after various intervals of time

FILLING MATERIAL	NUMBER OF TUBES ALLOWING LEAKAGE							
	After 15 min.	After 30 min.	After 45 min.	After 60 min.	After 2 hrs.	After 3 hrs.	After 12 hrs.	After 24 hrs.
Silicate (20 fillings)	18	18	20	20	20	20	20	20
Acrylic (20 fillings)	8	8	10	10	10	10	10	20

(National Bureau of Standards, Washington, D.C.)¹⁴ state that the popular mercurochrome test does not give a true indication of shrinkage or expansion, and that the size of the lumen of the glass tube may have considerable influence on the comparative rating of the mercurochrome test.

It should also be noted that the inner polished glass surface of the tube is dissimilar to the cavity wall of a tooth. Grossman¹³ in making his dye tests roughened the inner surface of the glass tubes to imitate the roughness of a dentinal surface. The dye test could possibly furnish more dependable conclusions if the filling materials were placed in tooth cavities instead of against glass surfaces.

Accordingly the dye test was carried out with the same filling materials packed into cavities in natural teeth.

TEST II

Five freshly extracted teeth (centrals, laterals and cuspids) were selected for acrylic fillings. Following extraction, the teeth were not allowed to dry out. They were immediately stored in a normal saline solution, until cavity preparations could be made. As a control, five similar types of teeth were selected for silicate cement fillings, and also stored in normal saline solution.

Cavities of type 3 and 5 were prepared in the teeth. As in the tube tests the acrylic resin and the silicate cement were produced by the same company. Techniques advocated for each type of filling material were carefully carried out, and the fillings were mixed and placed by one operator as was described in Test I.

Two means of applying pressure were used. One consisted of the use of stainless steel strip $\frac{5}{8}$ " x .002. The band was placed around the tooth and pulled tight and pinched between finger and thumb. The beaks of artery forceps were then forced parallel to the long axis of the tooth, between the grasping pressure and the tooth to pinch the band tighter. The forceps

was locked and left in position until the filling became quite hard. It is noted that Salisbury¹⁰ reported a similar technique and stated that a Pfingst root fragment remover could be used to clasp a band. This type of pressure was used for all Class 3 cavities.

Another means of applying pressure was by use of a modified battery clip. The battery clip was adapted for this use by filing and bending the gripping end to the approximate contour of a tooth crown. If this type of pressure were to be used the cavity preparation was postponed until the contours of the crown surfaces were imprinted on a compound lining in the beaks of the matrix. Before the preparation of a cavity, tinfoil was burnished to the labial surface of the tooth; flamed compound was applied to the inner surfaces of the beaks and the battery clip applied to the tooth to take the impression of labial and lingual surfaces. On release of the clamp, the tinfoil adhered to the compound, and one now had a matrix with a tinfoil surface to apply pressure to the filling. Fig. 3 shows the two types of pressure appliances.

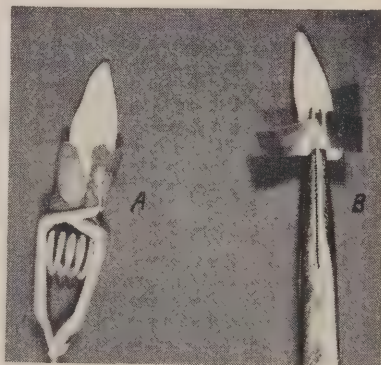


FIG. 3 — Illustration of two types of pressure. A. Modified battery clip. B. Stainless steel strip.

The teeth were filled in pairs. When the tooth cavity had been filled with acrylic resin a similar tooth with a similar cavity was chosen and filled with silicate cement. The same pres-

sure technique was used with each pair of fillings.

When an acrylic resin filling was hard, the band or matrix was removed and the tooth was submerged in normal saline solution for 24 hours before the excess of filling was removed by the use of diamond discs.

When the silicate cement was hard the band or matrix was removed and varnish applied over the filling. When the varnish was dry the tooth was submerged in normal saline solution for 24 hours, before the removal of excess filling, which was done with sandpaper discs lubricated with cocoa butter.

At this stage teeth with fillings of both kinds were suspended in an aqueous solution of methylene blue for periods of from one to five days.

Each day up to five days two teeth (one with a filling of acrylic resin, and one with the matching filling of silicate cement) were removed from the dye. The teeth were rinsed and scrubbed to remove excess surface dye. Ground cross-sections through the fillings were prepared for mounting on slides for microscopic examination. In the grinding of the tooth sections, diamond discs were used, and care taken to produce sections with fillings in place. Table II shows the results of

microscopic examination of the teeth and fillings subjected to the dye test.

TEST III

Cavities in 40 teeth (centrals, laterals, cuspids and bicuspid) were filled with acrylic resin in this test. As a control, cavities in 40 similar teeth were filled with silicate cement. The methods and techniques used were exactly the same as used in Test II, with the exception that all the teeth were suspended in the solution of methylene blue with the crown submerged for a period of one week. Sections were made for microscopic examination, and Table III shows the results.

Figure 4 shows a photomicrograph of a ground section through the crown of a central incisor in which a labial cavity had been filled with a silicate cement filling. The filling had been placed under band pressure and crown and filling submerged in methylene blue dye for two days. In this time the dye had commenced to penetrate and had reached a point below the enamel and was beginning to run between the dentine wall and silicate.

Figure 5 is a photomicrograph of a ground section through the crown of an upper lateral incisor which contained a labial filling of silicate cement. In this case the crown and fill-

TABLE II—Resistance of Fillings to Dye Over Periods Up to Five Days

MATERIAL	SUBMERGED IN DYE				
	One day	Two days	Three days	Four days	Five days
Silicate	No leakage	Slight leakage	Leakage	Leakage	Leakage
Acrylic Resin	No leakage	No leakage	No leakage	No leakage	No leakage

TABLE III—Resistance of Fillings to Dye Over a Period of One Week

MATERIAL	No. of fillings showing leakage	No. of fillings showing NO leakage
Silicate (40 fillings)	40	0
Acrylic (40 fillings)	0	40

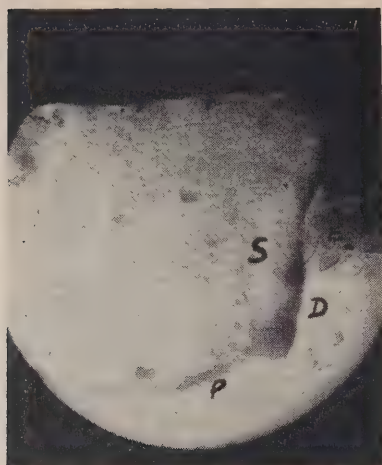


FIG. 4 — Photomicrograph of ground section of upper central containing silicate filling. Tested under dye for two days. S: silicate filling. E: enamel. D: dentine. P: pulp wall.

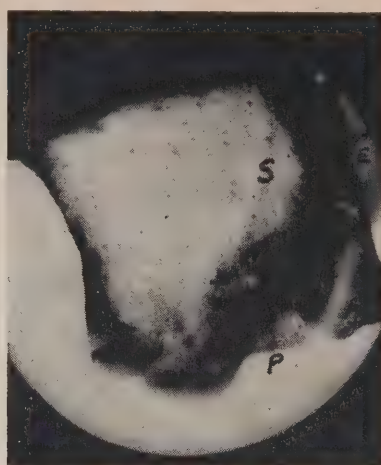


FIG. 6 — Photomicrograph of ground section of upper cuspid containing silicate filling tested under dye for one week. S: silicate filling. E: enamel. P: pulp wall.

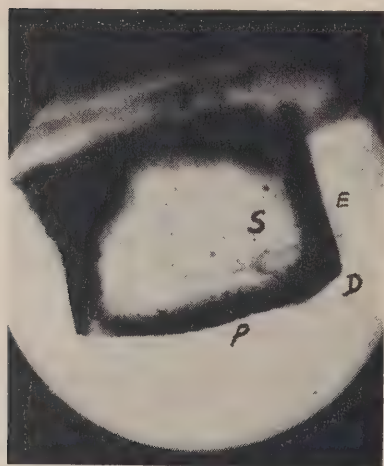


FIG. 5 — Photomicrograph of ground section of upper lateral containing silicate filling. Tested under dye for one week. S: silicate filling. E: enamel. P: pulp wall.

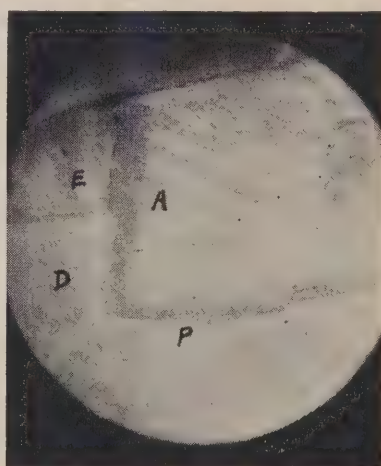


FIG. 7 — Photomicrograph of ground section through an upper bicuspid containing a filling of self-curing acrylic resin. A: acrylic resin. E: enamel. D: dentine. P: pulp wall.

ing had been submerged in methylene blue for one week. It may be seen that the dye has penetrated deeply into the labial surfaces of the silicate filling, and has penetrated between the filling and all cavity walls.

Figure 6 illustrates the penetration of dye into and around a silicate fill-

ing. The silicate filling was placed in a cavity in an upper cuspid tooth and was held under the band pressure until hard. The crown of the cuspid and the filling were submerged in dye for one week. It may be noted that the dye has penetrated very deeply into the filling material.

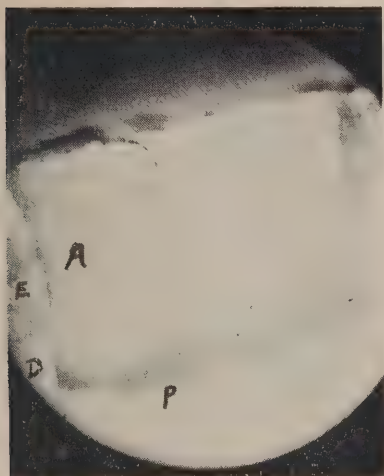


FIG. 8 — Photomicrograph of ground section of upper cuspid containing a filling of self-curing acrylic resin. A: acrylic resin. E: enamel. D: dentine. P: pulpal wall.

Figure 7 is a photomicrograph of a ground section through the crown of an upper bicuspid containing a labial filling of self-curing acrylic resin. The acrylic filling had been inserted under band pressure and the dye test was for one week. It may be noted that the dye has not penetrated the surfaces of the filling nor has it penetrated between the filling and the cavity walls.

Figure 8 further illustrates the adaptability of acrylic resin to cavity walls, and its ability to seal the cavity against penetration of aniline dye. The tooth in this case was an upper cuspid with a labial cavity. The cavity was filled with acrylic under band pressure and the crown was submerged in dye for one week.

Figure 9 shows a photomicrograph of higher magnification. In this case a labial cavity was filled with self-curing acrylic resin and pressure was obtained by use of the battery-clip matrix. The crown of the tooth and filling were submerged in dye for a period of one week. It may be noted that there has been no penetration of dye between the filling and the cavity wall.

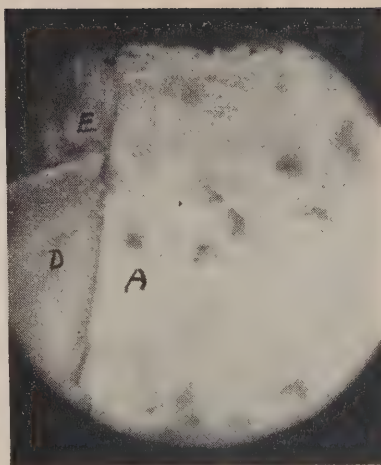


FIG. 9—Photomicrograph of upper cuspid containing acrylic resin filling (higher magnification). A: acrylic resin. E: enamel. D: dentine.

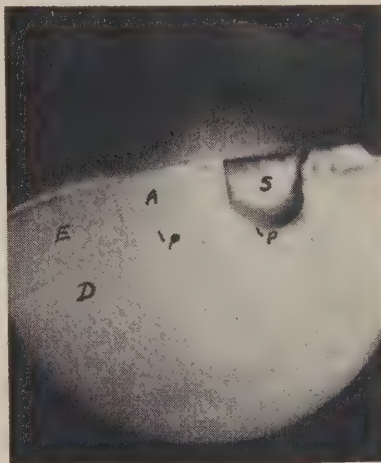


FIG. 10—Photomicrograph of an upper cuspid (low magnification) containing a filling of silicate cement and a filling of acrylic resin. A: acrylic resin. S: silicate. E: enamel. D: dentine. P: pulpal wall.

Figure 10 is a photomicrograph of a ground section of an upper cuspid containing two Class 5 fillings, one of silicate cement and one of self-curing acrylic resin. The acrylic resin filling was inserted first and pressure was maintained by the use of the modified battery clip. When the filling was

hard the clip was removed and a silicate cement was mixed and packed into the second cavity. The same type of pressure with the battery clip was used. When the silicate cement filling was hard it was coated with varnish and the varnish allowed to dry thoroughly, before the tooth was stored in normal saline solution for 24 hours. The excess filling materials were then ground off, well lubricated discs being used in the case of the silicate. The tooth crown was then submerged in methylene blue for one week before sectioning. The difference may be noted between the ability of the two fillings to seal cavities against the penetration of dye.

OBSERVATIONS

In microscopic examination, of all tooth sections containing acrylic fillings, no sign of dye could be noted between the fillings and cavity walls. Filling material, enamel, and dentinal tubules contained no signs of dye penetration.

Microscopic examination of all tooth sections containing silicate fillings showed the outer surface of the silicate filling penetrated by the dye. In these sections the dye had also penetrated between the fillings and tooth and could be noted along all cavity walls, including the pulpal wall.

CONCLUSIONS

1. The self-curing acrylic resin filling material has adaptability to cavity walls and makes a tightly sealed restoration.
2. If a very careful technique is followed in the mixing of self-curing acrylic resin, and mechanical pres-

sure is steadily maintained throughout the whole period of setting of the filling, a tight seal of filling and cavity wall can be obtained, to make the joint impervious to aniline dye.

3. Due to the viscosity of saliva it follows that a self-curing acrylic resin filling which is impervious to methylene blue, would also resist the entry of saliva.
4. Compared to silicate cement, self-curing acrylic resin, properly handled, produces a tighter seal between filling and cavity wall.

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ANNOUNCEMENT

THE DENTAL COUNCIL OF CANADA wishes to announce that the dates for the annual written examinations will be May 21-26, 1951. The oral examinations are held at Dental Faculty centres only, at a time suitable to the Examiners.

Class D candidates will kindly write to the Secretary in good time so that they may procure application and other forms that may be completed and returned by April 21.

All candidates must now forward Enabling Certificates, that are procured from their Provincial Registrars, along with their application forms before they will be permitted to take the examinations.

All applications for both Class A and D must be in the office of the Secretary by April 21, 1951.

A. J. Brett, Secretary-Treasurer, 202 Kerr Block, Regina, Saskatchewan.

Prevention Of Tooth Decay*

by A. B. SUTHERLAND, D.D.S., D.D.P.H., Sudbury, Ontario

"AND now we have arrived at the point where preventive dentistry must be our chief concern," is a quotation from the President's address to the last annual meeting of the Canadian Dental Association. The fact that the dental profession in Canada is finding itself unable to cope with dental disease as it is presently accruing in our population, provides the real significance of the word "must" in this remark.

Since tooth decay is directly or indirectly the cause of by far the greatest proportion of dental ills, control of tooth decay is the crux of prevention. True there are methods designed to prevent dental caries which can be undertaken only by the dentist, but, with knowledge of the cause, any individual is in a position to exercise some control measures.

ACCURATE INFORMATION ESSENTIAL

While contacts with the dentist represent the best possible sources of information of this nature for the public, unfortunately all of them cannot be numbered among a dentist's clientele, nor can it be said that every dentist makes a point of sharing his knowledge with his public. On these two counts, progress toward a reduction in dental disease is retarded through the lack of information to the public.

Regarding information reaching the public through advertising, the press and popular periodicals, much of it is to be condemned as being misleading and some as confusing. Misleading are those articles which tend to over simplify and over emphasize some one particular dental caries preventive procedure. Based on fact, they are frequently presented in such a manner as to appeal to the public as a panacea for dental caries. Confusing are the articles, which, from such qualified

premises as, "Without definite knowledge of the cause of dental caries," or "It seems probable," or "Granted that such is the cause," or from none at all, proceed to set out in detail, the steps to be taken in order to avoid tooth decay. Such educational effort toward motivating the public cannot fail to have an effect in reverse to that desired, for it puts too much upon the credulity of the public.

In view of the foregoing and upon pain of creating further confusion, one has the temerity to attempt to place in fair perspective some caries prevention measures which are being currently written about, practised, explored and exploited, and of necessity this involves references in parallel to factors contributing to tooth decay.

DENTAL CARIES: A DISEASE

Over one hundred of the leading dental research workers of this continent have collaborated to give us this definition of dental caries. "A disease of the calcified tissues of the teeth. It is caused by acids resulting from the action of microorganisms on carbohydrate, is characterized by a decalcification of the inorganic portion and is accompanied or followed by a disintegration of the organic substance of the tooth."

The initial stage of decay is an etching of the enamel by the acid formed as above. Before even this can take place, several more or less interdependent conditions must obtain in the mouth, and, due to this interdependence, the process of decay is frequently referred to as a mechanism. Efforts to create non-function of this mechanism have resulted in attacks being made upon one or other of the conditions essential to its operation. These are caries prevention procedures.

We are indebted to Professor Ken-

*Reprinted by kind permission of "Health".

neth A. Easlick of Ann Arbor School of Public Health for a comprehensive listing of the factors essential to the caries mechanism.

These are—

1. Susceptible Individual
2. Acid Soluble Tooth Substance
3. Acid Producing Microorganisms
4. Carbohydrate Substance — i.e. food for the microorganisms
5. Bacterial Enzyme System
6. Bacterial Plaque.

SUSCEPTIBLE INDIVIDUAL

Some people in our midst are immune to caries and familial immunities have been recognized, but, to the present, the reason for this has not been revealed. Some progress toward the breeding of rats to a state of immunity to dental caries has been reported; ultimate success in such experiments with animals might have peculiar impact upon human relations!

Absence of the third listed factor,—the lactobacillus, an acid producing organism, in the mouths and intestines of immune individuals has been reported.

Surveys show our population to be ninety to ninety-eight per cent susceptible.

SOLUBLE TOOTH SUBSTANCE

The systemic effect of diet upon the caries resistant quality of any tooth, whether foundation or permanent, is exerted only during the formative period of each tooth. This is so because the enamel crown is completely and finally developed upon eruption, is devoid of blood supply and thus incapable of reaction to systemic influence. The enamel surface, the part exposed to acid attack is almost entirely mineral in substance. So composed, the enamel is capable of combining with the lactic acid formed through the action of the lactobacillus organism on carbohydrate food debris. The result of this is dissolution of enamel—the beginning of tooth decay.

Were it possible to create a more

acid impervious tooth surface, the result would be less tooth destruction. With this end in view several prevention methods have been evolved, their common intention being to impregnate the enamel by applications of one or other of various mineral salt solutions. (It is possible that success attributed to these treatments may not be due entirely to greater insolubility as the agents used can be classed as enzyme inhibitors—Factor 5.)

SODIUM FLUORIDE

Most generally practised of the above methods is the application of two per cent sodium fluoride solutions to the teeth of children. From well-controlled experiments with large groups, a forty per cent reduction in caries incidence has been reported. Over publicity of these findings has placed a false value upon the treatment, for it has been presented to the public as a forty per cent deductible caries insurance policy for children. Actually, every child so treated does not participate in the benefits, for with some treatment is ineffective. Thus there is an element of empiricism in its application. The over emphasis which has been placed upon the merits of this type of treatment must surely have engendered a sense of false security in both parents and treated children. A natural consequence of this is neglect of the ordinary rules of oral hygiene.

Topical applications to reduce solubility have proven effective with children only, and *only with some children*. It is reasonable that the greatest possible benefits are to be gained by treatment at the earliest possible age. A limiting factor to this is the expressed difficulty of dentists in making proper treatments for children as young as three years. As a public health measure for application to a large population, it would seem economically unsound to so treat already carious mouths without undertaking restorative dentistry.

FLUORINE EXPERIMENTS

For some years it has been known that in certain areas on this continent where the only water used for cooking and drinking has a natural content of one part per million of fluorine or over, tooth decay is decidedly less prevalent than in otherwise similar areas. It was on the basis of this knowledge that the original experiments in topical application for a less soluble tooth enamel were undertaken. As is the case with the substances now used for this purpose, it is not clear whether the fluorine in the water serves to produce a less acid soluble enamel or whether it militates against carbohydrate conversion. There is inconclusive evidence to support either view.

Large scale experiments are now in progress to determine if fluorides can be artificially introduced to water supplies with effect similar to that produced by water of natural fluoride content. It has been observed that the greatest freedom from decay is shared by those who have been continuously exposed to natural fluorine water from birth to about eight years of age; hence the experiments are long term projects. No conclusive evidence from our Canadian experiment at Brantford is anticipated before 1955. Favourable results from these tests would indicate an inexpensive means of reducing tooth decay in populations enjoying a common water supply.

ACID PRODUCING MICROORGANISMS

Of the microorganisms ordinarily present in the mouth and capable of entering into the carbohydrate reduction process with acid resulting, the lactobacillus so predominates that others may be regarded as insignificant. Since they produce acid, naturally their habitat is acid in character; in fact, they are dependent upon an acid medium for their existence.

The question may well be raised, since the saliva is always close to neutral, why should it not have the effect of creating a condition detrimental to

the growth of these bacteria. Probably nature so intended, but there are impeding influences to such a natural effect. Apart from the anti-acid potential of the saliva itself, its neutralizing possibilities depend upon the facility with which it can reach areas of greatest acid concentration.

Without contradicting the previous statement regarding the systemic effect of diet upon tooth formation it can be said that diet does affect the character of the saliva. A saliva most copious and neutralizing in effect is to be obtained from a diet adequate for general health; to wit, one including sufficient fresh fruits and green vegetables. Food debris collecting about the teeth prevents the free flow of saliva and, in this way, it is rendered ineffective since failing to reach the sites of greatest acid concentration. The benefits accruing to clean teeth are self apparent.

SPECIAL TOOTH PASTES

Ammoniated tooth pastes are advertised as neutralizing in effect. This method of approach to caries reduction stems from experimental evidence that ammonia nitrogen forming naturally under the dental plaque tends to inhibit the growth of the lactobacilli. An evaluation of their neutralizing possibilities can most appropriately be undertaken in discussing factor 5, the dental plaque. Suffice it to state here that the force with which they are advertised could alone result in a reduction in decay, since frequent tooth brushing is advocated.

Only moderate success is reported from experiments undertaken to demonstrate the efficiency of penicillin dentifrices: these represent direct attack upon the lactobacillus, microorganism. There are contraindications for the continuous use of penicillin in such a manner.

Countless tests indicate direct relationship between the numerical strength of the lactobacilli in the saliva and the caries activity in the teeth of children so tested. Facilities for making lactobacillus counts are

provided free to dentists by all Ontario Government Laboratories. In this way they are able to check upon the caries potential of patients, as well as the progress of any procedures undertaken for the reduction of these microorganisms.

CARBOHYDRATE

To re-state the original definition—the cause of decay is the acid formed by the action of bacteria upon particles of carbohydrate (sugar and starches) adhering to the teeth. The lactobacilli are the predominating organisms capable of the above action; also carbohydrate is believed to be essential to their existence. An absolute carbohydrate denial procedure should result in great caries reduction, but caloric requirements, food availability, et cetera, demand that carbohydrate be included in our diets. However, it has been found that drastic reduction of a child's carbohydrate intake over a two week period reduces lactobacilli in the saliva to a negligible minimum, and this condition frequently persists for as long as six months after the child returns to a normal diet. This is not a method for use with large groups of children for it requires individual application and periodic saliva counts.

As opposed to starch, sugar (as in candy, pastries and pop) is the simpler form of carbohydrate and gives ready rise to acid through bacterial action. Acid can start to form from three to five minutes after sugar has entered the mouth, and continue to form for over one hour. The means of preventing tooth decay with greatest benefit to the greatest number is sugar denial both to the individual and to the converting bacteria. The effect of limiting the amount of sugar taken by the individual is obvious. The earliest possible removal of remnants of sugar from about the teeth, by brushing or rinsing, will reduce acid formation. Therefore, if the occasions when sugar is taken are limited to the occasions which permit of speedy removal

of the debris, a great lessening in tooth decay can be accomplished.

BACTERIAL ENZYME SYSTEM

Enzymes are complex organic chemical compounds formed by living cells and capable of producing, by catalytic action, the transformation of other compounds.

The process of changing sugar, with acid resulting, involves a series of chemical reactions. These reactions cannot occur without enzyme activation, hence the impact on tooth decay of destroying the enzymes or rendering them incapable of their role in sugar conversion reaction is apparent. Experimentally, and to a limited degree in practice, this avenue of approach is being followed. The possibility that some surface applications, also that fluorine in water, may effect the function of the enzymes, has been mentioned.

The inclusion of enzyme inhibitors such as Vitamin K in chewing gum and urea in dentifrices has not provided significant results. Experimental work is presently being conducted along the lines of incorporating an enzyme inhibitor in sugar, but most recent reports of this are not very encouraging.

In short, the attack upon dental caries through the enzyme factor has not developed greatly beyond the experimental stage.

THE BACTERIAL PLAQUE

The bacterial or dental plaque is described as on an organic mass containing multitudes of microorganisms adhering firmly to the tooth. It develops as food debris comes to rest in protected areas of tooth surfaces. When sugar in solution has penetrated the plaque, all the essentials for acid formation are present and centred in close apposition to the tooth. The result is acid of high concentration and capable of dissolving tooth enamel. Moreover, the normal acid neutralizing and diluting influence of the saliva does not prevail, due to the

dam thrown up against its free flow by the plaque itself.

Fissures and faults in tooth enamel contribute to dental decay in similar manner as the dental plaque.

Ordinary tooth brushing fails to remove the plaque from the less accessible areas of the teeth; more thorough removal can be accomplished by the dentist but they can reform with great rapidity. The detergent effect upon the teeth from chewing tough fibrous foods tends against plaque formation.

The antacid potentialities of some tooth pastes and mouth washes are nationally advertised but none has been proven capable of penetrating a well established bacterial plaque with effect sufficient to counteract acid tooth reaction.

The extent to which the individual can take action against these damaging tooth parasites, is to avail them-

selves of the advantages of the cleansing effect of hard foods, frequent and well directed efforts with the tooth brush, and cleaning by the dentist when he recommends it.

In this very brief outline of the related causes of tooth decay and measures which can be taken against it, we have indicated that no course of absolute evasive action is possible. The best results are to be obtained by patient-dentist co-operation, but, owing to the nature of the cause, a great reduction in dental caries can be effected in the population lying outside the limits of these contacts. The extension of services to provide the people with the necessary knowledge and desire to bring this about must be of concern to all who are interested in rearing a healthier generation and, in view of their present position, of greatest concern to the dental profession.

ANNOUNCEMENTS

THE ANNUAL CONVENTION OF THE MARITIME DENTAL ASSOCIATIONS under the auspices of the Dental Association of Prince Edward Island, will be held at The Charlottetown Hotel, June 27-29, 1951, Charlottetown, P.E.I.

THE BIENNIAL CONVENTION OF THE WESTERN CANADA DENTAL SOCIETY will be held in Winnipeg, Manitoba, June 4-7, 1951.

ONTARIO DENTAL ASSOCIATION Convention May 14, 15, 16 with Musicales on evening of May 13.

CLASS 2 T 1 PARTY. It is 30 years since graduation. About time for another party. Dinner & entertainment and **lots of fellowship.**

Monday evening, May 14, King Edward Hotel. Plan to attend the O.D.A. Convention & party.

THE 1951 ANNUAL A.D.A. MEETING will be held in Washington, D.C., October 15-18.

The next **ANNUAL MEETING OF THE AMERICAN DENTAL SOCIETY OF EUROPE** will be held in Lausanne, August 1-4.

Any information may be obtained from the Honorary Secretary, F. Douglas Derick 140 Park Lane, London, W.1.

THE AMERICAN ASSOCIATION OF INDUSTRIAL DENTISTS, a component member of the Industrial Health Conference, will hold its 1951 annual meeting April 24, 25 and 26 in Atlantic City, New Jersey. The theme of this year's program will be the various expressions of dental care programs as they relate to an industrial population.

The Impacted Lower Third Molar*

by HAMILTON E. SIMMONS, D.M.D.,† Vancouver, B.C.

ANY tooth may be impacted but the lower third molar is the most common offender and the most difficult to remove. A few years ago, I watched a well known oral surgeon spend two hours removing a horizontally impacted lower third molar tooth. He did a beautiful job of dissection. Stripping the tissues back, he proceeded to remove, by impactor and chisels, sufficient of the mandible to expose the offending tooth to its apex. He then proudly lifted it out with his cotton pliers and placed it on the operating table. The wisdom tooth was perfect but the patient's jaw was unnecessarily mutilated and permanently weakened and the patient doomed to weeks of suffering. Six months later, when I again met the patient, he was still suffering from post operative complications which could have been avoided by a more conservative treatment.

With the foregoing in mind, I have attempted to work out a definite technique which will enable the dental practitioner to approach this difficult operation with as much confidence as he would the malleting of a good gold foil or the construction of a fine gold inlay. The aim of the operator should be to remove the impacted tooth without injury to the second molar, with little trauma to the soft tissues, and to remove only the minimum amount of bone necessary to provide for clear vision and good access. An excessive amount of force should be avoided because too much pressure in elevating the tooth causes serious injury to the bony structure and traumatizes the surrounding soft tissues, with resulting pain and sloughing. I believe that a minimum of trauma will be followed by a minimum of post-operative troubles; therefore, I have endeavoured

to work out a method whereby the tooth to be extracted can be sectioned with reasonable ease and consistency and then removed through a small opening, without destroying large sections of bone or causing injury to the tooth in front of it, and all this in no greater space of time than that required for other techniques.

In preparation for the operation, one should remember the importance of asepsis. It is very difficult to prevent the wound from becoming flooded with the bacteria present in the mouth but, in their normal state, they are of little consequence; what one should be most concerned about is to avoid the introduction of foreign micro-organisms. A routine and thorough prophylaxis of the mouth is advisable and proper sterilization of all instruments and dressings, including the handpiece, is essential. I boil my handpiece before each operation and then run it in boiled oil to lubricate it again. When using it in the wound to cut the crown of the tooth, I smear the handpiece head and bur heavily with vaseline to lubricate it, to keep it from overheating and damaging the tissues it may contact, and to make it run more smoothly while cutting. I have not found this detrimental to the handpiece, and if you keep an old handpiece for this purpose it will do nicely, because your cuts do not have to be as accurate as for an inlay; a wobble in the bur does not matter but its cleanliness is of vital importance. An electric aspirator with good suction and the use of cotton rolls will prove a great help in keeping the field dry and vision good.

In performing the operation you should avoid unnecessary cutting, tearing, or bruising of the tissues surrounding the tooth. You should leave the

†Exodontist and Oral Surgeon, Shaughnessy Hospital.

*Also published in Treatment Services Bulletin.

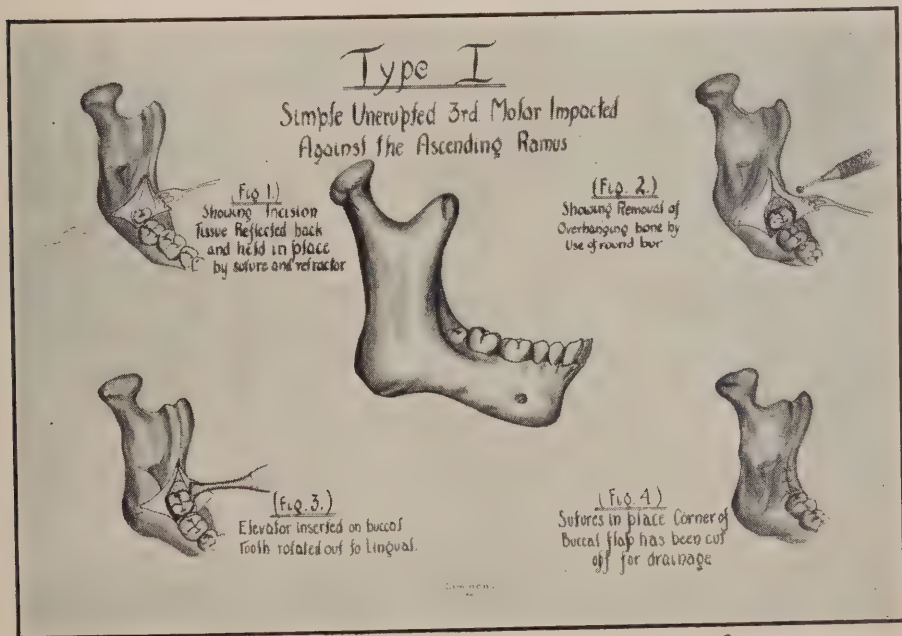
parts as nearly normal as possible. Speed is not always good surgery, but speed with accuracy and the avoidance of trauma is the goal we should seek to attain. It is not how quickly you can operate, but how well. It is not the condition of the tooth you have extracted, but the condition in which you leave your patient, that will gain you your reputation. Sometimes an operator will sacrifice a good, healthy, second molar by extracting it in order to facilitate the removal of the third molar. This is unnecessary. There are few cases where physiological or pathological conditions make it advisable to remove the second molar. A good x-ray of the area will guide your technique and serve as a map to assist you in attaining your goal.

The anaesthetic of choice for the general practitioner is conductive anaesthesia induced by a solution of a 1½% monacaine with 1 in 100,000 epinephrin, or some similar preparation, injected to block off the mandibular, lingual, and long buccal nerves.

For purposes of demonstration I have attempted to classify the impacted third molar as follows:

TYPE I. The lower molar which, although it may be in its normal position in the arch horizontally and vertically, is only partially erupted. The jaw may be underdeveloped and so the tooth may have been prevented from erupting by the angle and position of the ascending ramus, or the tooth may be over-developed and so too large to erupt in the space available, and the soft tissue may wholly or only partially cover the occlusal surface. This represents the simpler type of impaction.

For its removal, I block off the area with cotton rolls, dry the surface of the mucous membrane and paint with tincture of iodine or metaphen. Using a curved scalpel, the point is inserted at about the centre of the occlusal surface and an incision made forward to the middle of the mesial marginal ridge—turning at this point the scalpel is deflected buccally, ending the incision just short of the external oblique ridge. We then return to the middle of the marginal ridge and cut lingually to the internal oblique ridge; in this way we preserve the tissue distal to the second molar. Taking a straight scalpel and inserting it with cutting

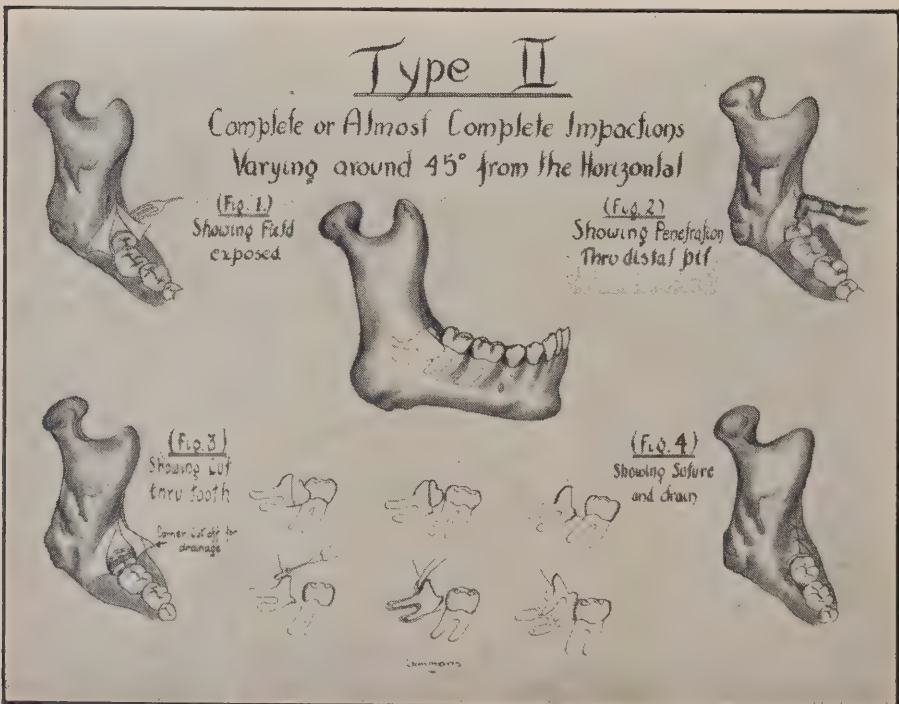


edge upward we then incise the tissue through to the crown of the third molar and proceed posteriorly and slightly buccally; since the ascending ramus inclines outwardly, the incision follows the same course. Passing the distal of the tooth, we incise upwards sufficiently to allow for a good field and if the bone is encroaching on the tooth at this point it is thoroughly exposed by the incision. Using a periosteal elevator, we then deflect the tissue flaps, buccally and lingually, exposing the occlusal surface and any overhanging bone (Fig. 1). This bone can easily be removed by the use of a round bur (No. 8) in the straight handpiece, or a No. 702 fissure bur, cutting around the periphery of the crown until it is free (Fig. 2). The tooth can then readily be removed by forceps or by gently applying elevators on the buccal side and forcing the tooth out of its socket (Fig. 3)—S.S.W. No. 320 or 321, or Cryer No. 30 or 31, are good for this purpose. I often place a black silk suture at the angle of the buccal flap,

which my assistant holds taut, exposing the field during the operation. This suture, or a retractor, can be held by her right hand, while she uses the aspirator with her left. After the removal of the tooth, the suture can then be carried through the point of the lingual flap and the two tied together to facilitate healing (Fig. 4).

TYPE II. Under the second class of wisdom tooth, I group those complete or almost complete impactions, varying around 45 degrees from the horizontal plane, with crown towards the second molar. These are usually engaged tightly under the bell shape of the crown of the second molar by their mesial marginal ridges or cusps.

Taking a curved scalpel, one starts the incision, beginning at a point buccal to the internal oblique line and high enough up the curvature of the ascending ramus to give a good field, usually $\frac{3}{4}$ to 1 inch above the distal of the second molar. One then descends, cutting through to the bone and following the curvature of the ridge, and ending at



a point just distal to the second molar. Following this one cuts sharply to buccal and to lingual, completing the $\perp$, but leaving a protective isthmus of gum tissue running from buccal to lingual against the neck of the second molar to protect it and facilitate healing.

Raising the flaps with the periosteal elevator, it is well to insert a suture at the angle or to use a retractor to expose the field (Fig. 1). If the crown of the tooth is not entirely visible, one clears away the overlying bone by using a No. 702 bur in the contra angle.

When your x-rays show the roots to be reasonably normal, it is a good thing at this point to attempt to loosen the tooth slightly in its socket. This should be done gently and conservatively, using the periosteal elevator on the buccal or, if one can grasp it, long beaked forceps can be used on the crown with a gently rotating motion. This loosening will facilitate the removal of the roots after the crown is severed. In some cases it is not possible to loosen the tooth because of crooked roots, or too tight a wedging, which would cause trauma to the tooth in front. Place a small round bur (S.S.W. No. 5) in the contra angle and commence to penetrate the crown (Fig. 2). The point of entry will vary with the angle of the tooth but the best place is at the neck, if you can reach it easily. The enamel is thin there and you can penetrate easily into the pulp chamber; however, no great amount of bone should be removed to attain this end. You can enter the distal pit of the occlusal and drive straight down into the pulp chamber with good results too (Fig. 2). When you have felt the bur penetrate through to the pulp, change it for a larger round bur (No. 8 or 9) and enlarge the opening. Exchange this bur for a No. 702 fissure bur, smearing the handpiece head and bur with vaseline so as to prevent injury to surrounding tissues from overheating, and commence the cut buccally and lingually. It is best not to cut for prolonged periods, but to give the patient

a chance to rest from time to time; the mouth may be closed while you change to a fresh bur and you may then syringe out the field with an antiseptic mouthwash and dry with the aspirator whenever necessary. Now continue the cut through until you are sure you have cut through both buccal and lingual surfaces of the tooth (Fig. 3). Do not, however, try to penetrate through the crown of the tooth into the bone beneath, as you might injure the mandibular nerve and blood vessels; experience will guide you in stopping where your break will be most favourable.

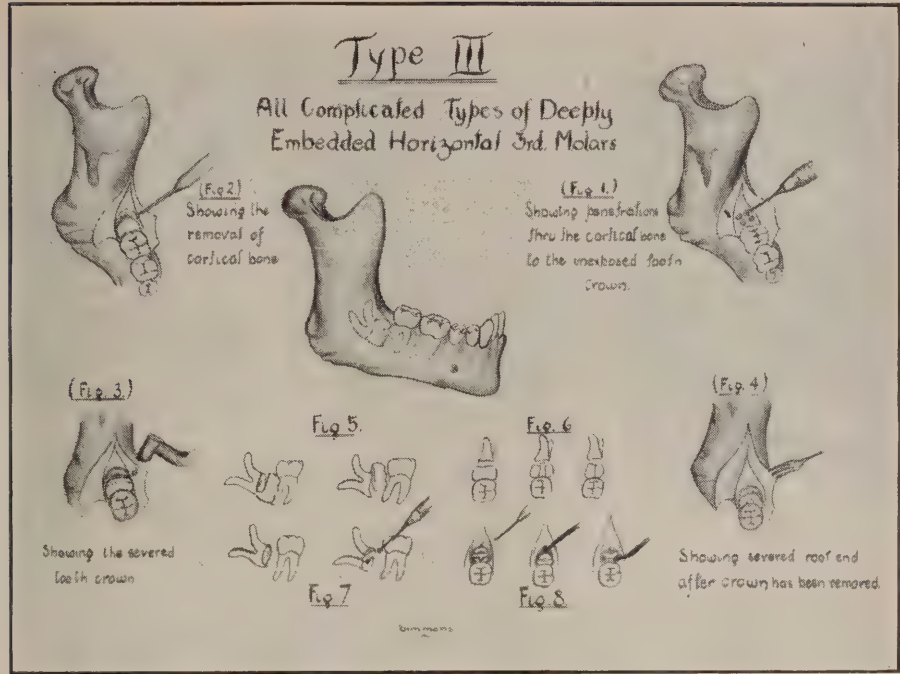
The next step is to insert the elevator into the cut and fracture the crown from the root by a quick but gentle rotary motion. You should always warn your patient that he may hear a snap like the breaking of a piece of glass or porcelain, as it helps him to overcome any fear and gives him confidence that you know what you are doing. When the crown is free, push it posteriorly into the space provided by the transverse cut and this will free it from its interlocking position against the second molar and will usually enable you to lift it out. In most cases the crown can be removed best by inserting the elevator buccally, and forcing it out upwards and lingually. In a few cases, however, due to the position or shape of the crown, the elevator can best be placed on the lingual and the pressure used to force the crown out on the buccal side. Sometimes the elevator can best be placed between the occlusal of the third molar and the gum tissue; using the second molar as a fulcrum, the crown is forced backwards and upwards, thus dislodging it—regardless of which method is used, excessive force should be avoided. Remove the crown and set it aside for later study. Block off the field with cotton rolls and dry out the socket so that the root is now visible. Replace the contra angle handpiece with a straight round bur (about No. 6 or 8) and penetrate into the bone, at its junction with the root, at the uppermost point and just buccal to the mid-

line. Continue at an angle downward into the bone, and sometimes partially into the root, sufficiently to enable you to get the pointed elevator (Cryer 30, 31 or Clev-Dent C,D), in and create leverage forward and upward, bringing the root out into the socket vacated by the crown (Type II, Fig. 3). Use a spoon or elevator to guide the root up and out of the socket and check the crown and root to be sure that you have removed all of the tooth. Aspirate any fragments from the socket and be sure to remove the dental sac, which usually surrounds the crown in these cases. Smooth the edges with a bone file, leaving a non-irritating wound and clip off the corner of the buccal flap, if necessary, to give good drainage. Fill the socket with abocillin or harcelone, or some similar ointment, and suture the wound (Fig. 4).

In a small percentage of cases, resistance will be met with in removing roots and the x-ray may show hooked, or otherwise unfavourable, formations. The space you have gained through the removal of the crown should give you free access to the root so that if any resistance is met with you can safely conclude that it is entirely due to the root formation. It is then advisable to separate the roots. Take a round bur in your straight handpiece and cut through the centre of the pulp chamber to the bifurcation (Type III, Fig. 7-8). As soon as you feel the round bur burst into the cancellous bone replace it with a fissure No. 702 and cut buccally and lingually until the roots are separated. Take a straight elevator and lever one root against the other, gently bringing it forward. Usually it is well to remove the upper or distal root first by placing an elevator above and buccally and forcing it downwards into the cut and forward. For the lower or mesial root, one can usually place the elevator beneath and buccally and tease the root upwards and forwards. If solid resistance is met here, use the bur to remove the septum of bone above it in order to free it. After you have cleared the space correctly, one or the other root will come easily enough, leaving plenty

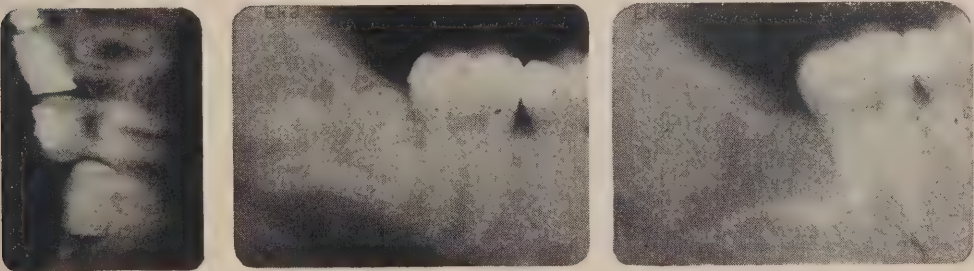
of room for the more difficult member. Another method is to use a tapered fissure bur No. 701 in the straight handpiece and cut on the buccal and lingual of the root, freeing the septum of bone that is in between the roots, enabling you to bring the mass forward. This creates a large wound and greater loss of bone structure and is, therefore, a second choice to be used with discretion. In cutting around these roots, the utmost care should be used to avoid injury to the inferior dental canal with its nerve and blood vessels.

TYPE III. For the third classification, I include those teeth which are horizontal and deeply embedded in the bone. They may be tilting downwards and forwards with straight or bifurcated and curved roots and all manner of complications. It is usually advisable in these cases to vary the plan of the soft tissue incisions. Instead of the $\downarrow$ type used before, one should insert the scalpel well above the apex of the retromolar triangle and cut downward and forward, deeply to the bone, and just buccal to the internal oblique line up to the distal surface of the second molar and then swing buccally down the neck of the second molar and along to the first molar. Using the periosteal elevator, one may then dissect back the flap, both buccally and lingually, exposing the cortical bone covering the wisdom tooth. It is well to note a word of caution at this time in order to avoid postoperative complications. Do not strip the gum flap far enough to allow penetration into the digastric triangle. There is a space along the anterior border of the masseter near its attachment to the inferior border of the ascending ramus. If you open up this space, and allow saliva or other secretions to slip downwards into the connective tissue spaces below the inferior border of the mandible, you will expose the patient to the possibilities of a Ludwig's infection; leave this space closed at all times. Keep the retractors in such a position that they will not elevate the flap sufficiently to allow any such penetration and you will avoid the huge postoperative oedema that so

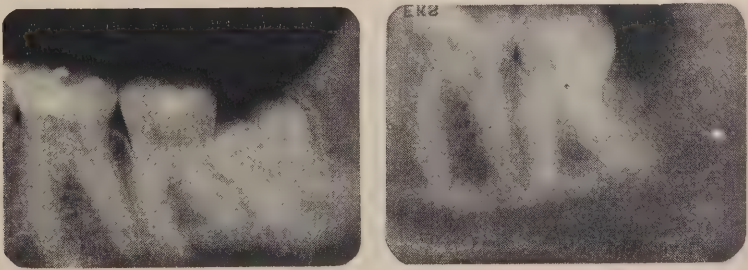


TYPE I

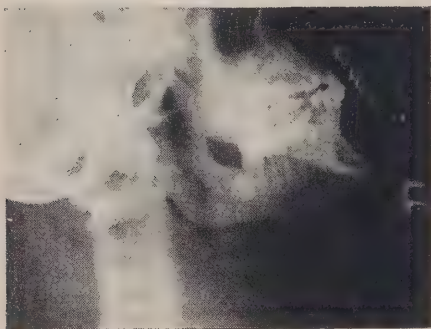
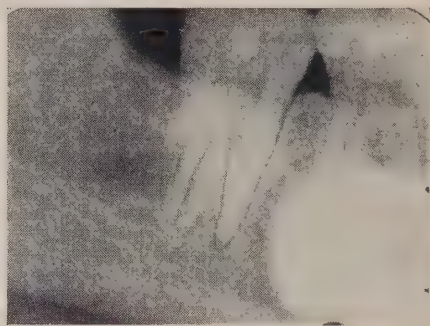
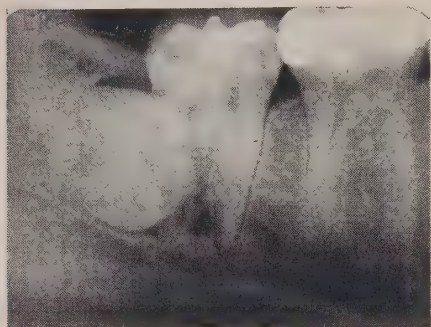
TYPE III—Showing small opening through which the tooth was removed with minimum amount of trauma to the surrounding tissue.



TYPE II



A difficult TYPE III. Notice the hooked roots and the small opening through which the tooth was removed.



Simmons

often follows this type of operation.

Having exposed the bony covering of the embedded tooth, I then use a round bur (No. 8 or 9) in the straight hand-piece and penetrate through the surface until it strikes the solid crown of the tooth below (Type III, Fig. 1). Two or three such holes are easily made and a chisel can then be used to expose the crown to the neck line only and to buccal and lingual (Fig. 2). Continue as in Type II, making the penetration into the crown but stopping in the pulp chamber; it is wise not to penetrate beyond the pulp chamber because of the underlying structures. Make the lateral cuts to buccal and lingual of a good width, using No. 702 or even 703 fissure bur, to allow plenty of room for dropping the crown back into the space (Fig. 3). You may now fracture off the crown in much the same manner as in

a Type II case but you may find that because of an unfavourable structure you cannot remove the crown (Fig. 5). You can carefully free it by using a large round bur in the cut and so provide yourself more room. Frequently it is helpful to section the crown again with a fissure bur in the contra angle, cutting from the middle of the first transverse cut, straight forward towards the second molar and separating with the elevators (Fig. 6). You will then find that the pieces will collapse into the spaces you have provided and can be scooped out with elevators or spoons.

You must remember that in this type, you can be pretty well sure that the mandibular canal lies immediately beneath, or very close to, the impacted tooth so that when you remove it you will usually see the canal contents ly-

ing in the canal when you aspirate out the socket. Every precaution should be taken to avoid traumatizing them as you are more likely to have pain post-operatively because of this proximity. The x-ray must guide you as well as your knowledge of anatomy. Avoid packing the sockets with gauze. A good blood clot is the best packing you can have. If the wound is large and there is infection present, it is well to fill the wound with abocillin, or a similar ointment containing 1000 units per gram of penicillin in a eucerin or lanette wax base, and suture over it. If there is difficulty in controlling the bleeding, pack the socket with oxycel and suture over it, clipping off the corner of the buccal flap to ensure drainage. The oxycel will dissolve slowly out by itself in three days. I do not advise the routine packing of these wounds with oxycel, however, as I find it produces an oedema as a general rule—drainage is not good when the socket is packed with any cellulose. For routine use, I advise the abocillin, or an equivalent ointment. Sulpha drugs are contra-indicated in sockets where there is any possibility of the mandibular nerve being exposed because the action of the drug on the nerve trunk may induce a neuropraxia or parasthesia. You can lace the last suture closest to the distal of the second molar, around the second molar itself, drawing up on it as around a capstan. This will keep the flap taut and help to prevent food from lodging in the space. Give nature a chance and healing will follow rapidly.

For postoperative home treatment, we always suggest a hot saline mouth wash every half hour after the first four hours — $\frac{1}{2}$ teaspoon of ordinary table salt, in a glass of water as hot as the patient can comfortably stand it, will do. Five grains of aspirin, or Frosts 222 if necessary, may be pre-

scribed with proper instructions for dosage—not more than 2 tabs. every 5 hours. In most cases two tabs. will be sufficient. When there is swelling, we advise an ice pack on the outside of the face to assist in reducing it. Caution: if there is much swelling, do not use hot applications on the outside of the face because if pus forms it will have a tendency to point towards the heat, causing a fistula on the face or neck. Sometimes the patient may experience postoperative pain three or four days after the operation. You can always puncture through to the socket, just distally and buccally to the second molar, for cleansing and packing. When the pain is mild, syringe out with a warm solution under mild pressure and fill the socket again with abocillin. When pain is acute, take a square inch of iodoform gauze, tent it to a point in the centre, and dip the point into a guaiacol solution and carry it deeply into the wound. This will usually stop the pain quickly. In the very severe case it is advisable to change this dressing twice the first day and then daily for two or three days, or longer if necessary. For postoperative haemorrhages a useful hint which will often save you a trip out at night is to instruct the patient to rinse out the mouth well and to place an ordinary dry little tea bag in over the wound and clamp down on it, holding it firmly in place for twenty minutes to half an hour; this will usually stop the bleeding.

In developing my technique for the lower third molar a great deal of help was received from the early work (1917) published by Dr. O. T. Dean of Seattle—this assistance is gratefully acknowledged; in the preparation and editing of this article the assistance of my confrère, R. W. Bradley, must also be mentioned.

"To a friend's home the road is never long."—Dutch Proverb.

"You can't hold a man down without staying down with him."—Booker T. Washington.



Pictured left to right are Dr. R. P. Lowery, Very Rev. G. C. Pidgeon, D.D., Hon. Paul Martin, Dr. Don. W. Gullett and Dr. Harold W. Oppice.

Our New Headquarters is Officially Open

February 10, 1951 goes into the record of Canadian dentistry as a day of significance. On this date the new headquarters home of the Canadian Dental Association was opened at 234 St. George St., Toronto, and dedicated to the promotion of better dental health for the people of the nation and to the service of the profession. The frontispiece is a picture of the grand old home which has been converted for its new purpose. Interior changes have been made both in structural arrangement and in decoration which gives you a feeling of pride and satisfaction as you look around and realize that this is ours. The whole atmosphere symbolizes a new horizon for Dentistry in Canada in keeping with its virile progress and its importance as a health profession.

There were many distinguished guests present to witness the official opening; each of the ten provinces sent representatives; Dr. Harold W. Oppice, President of the American Dental Association came to bring greetings;

there were guests from Ottawa and Montreal; representatives came from the Canadian Medical Association, the Canadian Hospital Association, the Canadian Red Cross, Canadian Cancer Society, Dominion Council of Professional Engineers, the Canadian Bar Association, the Royal Architectural Institute and many such organizations; President Sidney Smith of the University of Toronto and Dean Roy Ellis were there. Then there were members of the respective Boards of the Royal College of Dental Surgeons and the Ontario Dental Association; and of course many guests were accompanied by their ladies to give colour, grace and charm to the occasion. The guest list also included a number of dentists who are presently directing officers of various dental organizations who came with their ladies for the memorable event.

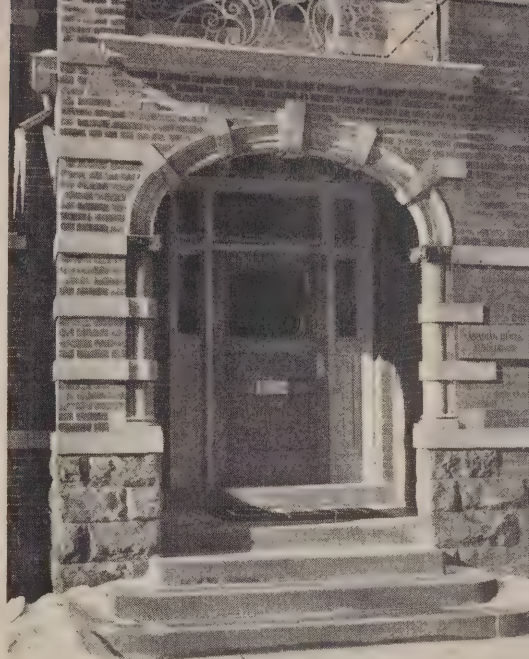
The opening ceremonies were conducted by President Dr. R. Perc. Lowery with dignity and dispatch. The Very Reverend George C. Pidgeon,

D.D. recited scripture and gave the dedicatory prayer. The Honourable Paul Martin, Minister of Health and Welfare at Ottawa gave the inaugural address. Dr. Harold W. Oppice, in his message of greeting from the American Dental Association expressed warm appreciation of the friendly relations of the two associations and paid a high tribute of praise to the work of Dr. Don. W. Gullett for "his outstanding contributions to the advancement of the art and science of dentistry".

The Honourable Paul Martin expressed his pleasure in accepting the invitation to declare this new national headquarters open. "This ceremony to-day is a memorable event in the history of Canadian Dentistry", said he, "and the establishment of this headquarters is a fine example of co-operative effort. It is, I believe, the first time in Canada that a professional health association has established a national headquarters owned by the association itself.

"The Canadian Dental Association, with members from each of our ten provinces, will celebrate its Golden Anniversary next year. As the profession of dentistry in Canada is only 75 years old, the fact that the Canadian Dental Association has been in active operation for 48 years takes on added significance.

"During your half century of service



OUR ENTRANCE DOORWAY

to the dental profession and to the Canadian public, dental care in Canada has become recognized as a basic health need. In every advance that has been made in research, prevention, control and education, this Association has played an essential part. The present high professional level of Canadian dentistry owes much to the free and friendly association of members of the profession in this organization."

Dentistry and The National Health Program*

During the past 2½ years, the National Health Program has made many important contributions towards the advancement of Canadian dentistry. The broad patterns of this Program are now well understood by every Canadian dentist. I should like, however, to indicate very briefly a few of the outstanding achievements made possible by these federal health grants to the provinces:

—substantial grants have been allocated for provincial dental services.

- Provincial health surveys are gathering authoritative information on local dental health needs which will assist greatly in charting future programs.
- 66 dentists have been employed part-time or full-time in hospitals, clinics and health units across Canada.
- to strengthen local health services, numbers of dentists are being trained in Public Health Dentistry at various universities.
- every province has taken advantage of the grants to extend its preventive dental services for children.

*Text of address given by Honourable Paul Martin, Minister of Health and Welfare, Ottawa, Canada, at the opening ceremonies of the New Headquarters of the Canadian Dental Association, February 10, 1951.

- mobile dental clinics and a number of additional stationary clinics have been set up.
- new provincial divisions of Dental Public Health and Dental Hygiene have been organized in several provinces.
- dental services have been provided in mental hospitals and tuberculosis sanatoria.
- dental health research has been greatly accelerated by the provision of staff and equipment for laboratories.
- in one province, grants-in-aid are being made to dentists located in rural communities where no previous dental services existed.

In all of these advances, there has been a growing spirit of cooperation and teamwork between governments at every level, members of the dental profession, and the Canadian Dental Association.

CANADA'S MOST NEGLECTED HEALTH PROBLEM

Dental disease is one of Canada's major health problems. Tooth decay affects 99% of our population. Every other three-year-old child has one or more decayed teeth. Even before leaving elementary school, most children

have already lost at least one tooth because of decay. In the adult population the prevalence of gum diseases is also very widespread. Among persons past thirty, more teeth are lost as a result of gum diseases than are lost from tooth decay in earlier life.

I should not, however, be giving these statistics to a group of dentists. I should be telling them to Canadian mothers and fathers, for the irony of this situation is that it need not exist. Dentists know a great deal about the prevention and control of tooth decay and gum disease. It is regrettable that we do not make proper use of this knowledge. It has been authoritatively estimated that only about 30% of our people demand adequate regular dental care and that most of us request dental care only occasionally — usually when extractions are required.

Far too many people regard health merely as the absence of disease, and dental health in particular as the absence of pain. We seldom hear of people dying directly from tooth decay, and so most of us neglect dental care until we have serious trouble. Far too many people fail to realize until it is too late, that tooth decay is a "disease", although it has been clearly shown that there is an intimate relationship between the dental condition, general health and probably also longevity.

Neglect of dental care has been aggravated by the serious shortage of dentists and their uneven distribution between rural and urban areas, and between provinces. Over the last six years, with 786 dental graduates from Canadian universities, deaths and retirements have whittled the actual increase in personnel down to 113. On the other hand, during the same period, the population of Canada has increased by 1,700,000. To provide an adequate number of dentists in all parts of Canada without permitting any deterioration in the high standards of



your profession is one of the problems yet to be solved.

THE IMPORTANCE OF EDUCATION PREVENTION AND RESEARCH

Public complacency with respect to dental health can only be combatted by public education. Through its work in distributing educational literature on dentistry to the public and through its splendid radio broadcasts, the Canadian Dental Association is making an important contribution to dental health education throughout Canada.

There was a time when dentistry, quite justifiably, was concerned more with repairing the accumulated damages of the past than with building for the future. In recent years, however, we have come to realize, not only in dentistry but in every field of health activity, that "an ounce of prevention is worth a pound of cure". The expansion in dental services in the schools; the increased importance now being attached to the primary teeth; the early treatment of decay, malocclusion, and gum disease in their first stages; and the increased attention being given to proper nutrition and oral hygiene are all indicative of the shift in emphasis from treatment to prevention.

In all our preventive programs, primary consideration is given to children, for today it is realized more clearly than ever before that the dental care of the child will determine his dental health as an adult. The coming generation are now being taught early in life that dental treatment is essential to healthful living.

In the area of dental health research, a number of exciting possibilities are now being explored. During recent years, a great deal of interest has centred on the use of the fluorides to prevent dental caries. At the present time, Dr. H. K. Brown, the Chief of the Dental Health Division of my Department, is carrying out a study of the dental health of a random sample of the children in Brantford and a comparable study in Sarnia, in connection with study projects on the

effects of fluoridation of water supplies.

The results of this experiment, examined in conjunction with the previous study undertaken in Stratford, Ontario, where fluorine occurs naturally in the water supply, may prove to be an important landmark in Canadian dental research. Promising experimental work is also being carried out by Canadian dentists on the topical application of sodium fluoride solution to the enamel of the teeth.

Other methods of controlling decay are now being explored by research workers in both Canada and the United States but conclusive evidence is not yet available in connection with any of the other experimental methods of controlling decay. In addition to specific dental research, a number of projects made possible by the federal grants for General Public Health are helping to increase our knowledge of dental fitness and its relationship to overall health.

LEADERSHIP OF THE DENTAL PROFESSION

I have spoken of three weapons—education, prevention and research—that are fortifying our efforts to improve the dental fitness of the nation. The fourth, and in many ways the most important, is leadership. Neither public education, preventive programs nor research can flourish without strong, progressive, well-directed leadership. This leadership must come from governments at the various levels, from professional organizations such as the Canadian Dental Association and, above all, from the individual Canadian dentist.

In its 75 years of service, the Canadian dental profession has built up a fine tradition of integrity and professional competence. In the coming years we will look confidently to our dentists and to organizations like the Canadian Dental Association to guard the high standards of teaching that have been established in our Canadian faculties of dentistry; to support every activity that will foster greater public awareness of dental health problems; to give

research and investigation enthusiastic support; and to lead in shifting the emphasis in dental care from the replacement of lost teeth to the prevention and control of dental disease.

The Opening of this National Headquarters of the Canadian Dental Association is, to my mind, a symbol of the opening of a new era in Canadian dentistry—an era in which, under the informed leadership of the dental profession, the citizens of Canada will be

given surer guidance and care in guarding their dental health.

At the close of Mr. Martin's address President Lowery invited all present to inspect the offices and appointments of the building. The newness of everything made more appealing by flowers sent by organizations and individuals unable to attend, was a thrilling satisfaction to all our executive officers who worked so hard and so long for this great day.

T. R. M.

ANNOUNCEMENT

NEW REQUISITES FOR THE ADMISSION TO THE FACULTY OF DENTAL SURGERY OF THE UNIVERSITY OF MONTREAL

by ERNEST CHARRON, Dean

At the beginning of the academic year 1950-51, the Faculty of Dental Surgery of the University of Montreal decided to modify the condition of admission to its studies. It is not sufficient now to present the degree of Bachelor of Arts from a University of the Province of Quebec or from other Universities. The candidate must prove, by the academic results he obtained at college, that he possesses not only a good background in Humanities and Philosophy, but also capacities in the basic sciences, which would allow him to enter dental duties with profit.

The dossiers of the candidates on admission are then studied at their merit. The classification of the student at the college from where he comes is noted. The curve of marks he obtained from Belles-Lettres up to the final year of the College Course is analyzed by a Committee of men skilled in pedagogical questions. The bachelors who have an excellent dossier may, in certain cases, be admitted directly in the first year without examinations; those whose academic record is good are required to pass an entrance examination, which is common to the candidates in Dental Surgery and in Medicine. Finally, the candidates whose dossier is lacking both in quality and quantity must do a year of special premedical studies; in certain cases, they may unconditionally be refused and directed towards another career.

Why these new requirements? Why a thorough preparation in basic Sciences, Biology, Chemistry and Physics, without excluding Mathematics, necessary to the intelligence of the last two? The reason is very simple. For many years, the progress of dental science is such that the students in the Faculty of Dental Surgery must follow practically the same preclinical courses as the students in Medicine. It is now the tendency in the most reputed Faculties of Dental Surgery over the continent. Some require three or four years of medical studies after which the student specializes in dental art, as the physicians in Surgery, Gynecology, Urology, etc. In fact, the students in Dental Surgery at the University of Montreal follow the basic courses: Biology, Chemistry, Physics, Anatomy, Biochemistry, Histology, Physiology, etc. with the students of Medicine and according to the same programs. They must then possess, at the moment of their entrance at the University, the same qualifications.

But, there is another reason to discriminate between the Bachelors. At the present time, the Bachelor of Arts' Degree does not correspond to a single and standardized program; it crowns four years of collegiate or university polymorphous studies. Some students' dossiers are pretty well balanced in general education and in sciences; others are clearly deficient in either one or the other section, generally in scientific matters. In the first case, the student even if he has obtained his Bachelor's Degree, may be below the average in sciences, this for different reasons that we will not discuss here. The premedical year offers to this student an opportunity of compensating the insufficiency of his scientific preparation. In the second case, the deficit in sciences is so important that it can contra-indicate whatever registration in the first year of Dental Surgery and also in the so-called "premedical year". Briefly, the Committee on admission appreciates the Bachelor as an individual, not the Baccalaureate as a degree.

Finally, as Medicine, though on a different level, Dental Surgery has become at the same time an art and a science. Today, its practice lies on a firm basic formation in Biology, Chemistry and Physics. At the Faculty of Dental Surgery, a good number of subjects are taught which are parts of the program of a medical course. The practitioner will have the opportunity of performing during the exercise of his profession many processes which have the same importance and may have the same consequences as the medical ones. It is logical that the Faculty enrolls only candidates fully qualified to undertake such studies.



September 23, 24, 25, 26, 1951

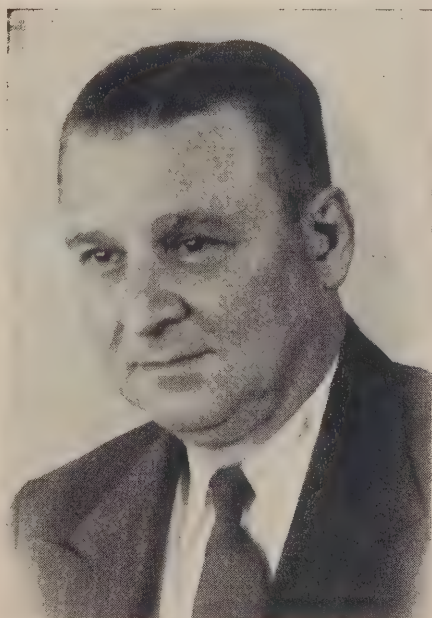
Perhaps it seems early for making plans to attend the convention at Ottawa next September, but the months slip by so fast. The committee have plans for the meeting well advanced and the program is pretty well arranged at this date. Outstanding dentists from United States and Canada will contribute in lectures and clinics. Then there will be social functions that can only occur at the National Capital.

Plan now to attend by filling out page 39 at the end of the advertising section of this journal.



Dr. Pallardy is professor of prosthetic dentistry at Temple University. He is a member of the American Denture Society, the American Association of Cleft Palate Rehabilitation, and the American Academy of Stomatology.

The title of Dr. Pallardy's presentation at the National Convention will be "Simplicity in Full Denture Construction."



Dr. Sumnar Pallardy, F.A.C.D.

The Forum

A MUST FOR EVERY ORAL SURGEON

Editorial in Jour. of Oral Surgery, Jan. 1951

When did you have your last thorough physical examination? Not a cursory life insurance checkup or a hasty, friendly survey by your physician associate, which consisted largely of a thump on the chest, a pat on the back and some earnest advice about working less and relaxing more, but a real basic examination which gave you a comprehensive evaluation of your physical condition.

Oral surgery is a strenuous profession, one that drains both physical and nervous energy, one that should require the operator to be as conscientious about his own health as he is of that of his patients.

As Ralph A. Johnson, M.D., recently pointed out in the *Detroit Medical News*, we as health workers know the priceless value of periodic examinations. We recommend them to our patients and to the public. We recognize that most corporations demand complete diagnostic studies of their executives as an important company investment. Yet many of us in the profession fail to apply this basic rule to ourselves. We still persist in the "do as I say, not as I do" attitude.

Each year finds an increasing num-

ber of highly skilled members dropping out of the profession or dropping off entirely because of some disability which might have been detected in the incipient stage by a thorough annual physical examination.

Ironically, many dentists, including oral surgeons, who do avail themselves of an occasional and a perfunctory physical examination give little or no attention to the health of the oral cavity. Every physical examination should be accompanied by a thorough examination of the teeth and their supporting structures. There are a number of oral conditions, other than caries, that are of more diagnostic significance to the trained observer than the average physician realizes. It is essential therefore that the dental aspects of the physical examination be made by a competent dental examiner.

If you are one of those who has neglected to take an annual inventory of his physical assets, start the new year right by having a thorough physical and dental examination immediately. You owe that much to your patients, your family, your community and yourself.

EXODONTIA FOR THE PATIENT WITH CARDIAC DISEASE

From Jour. of Oral Surgery, Jan. 1951

Q.—Should only one tooth be removed at a time for the patient with cardiac disease?

A.—The patient in this classification is often advised to have no more than one tooth removed at a time. Where multiple extractions of defective teeth are indicated, such a prolonged treat-

ment plan of repeated procedures would be both senseless and a drain upon the patient's reserve. If a conservative but rational treatment plan for the extractions is outlined for the physician, a full understanding will be reached and the patient will benefit.



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Editorial

A GREAT CANADIAN DENTIST PASSES

Ken Carver is gone. What is there to say of one who so freely gave of himself to his profession? Only one question did he ever ask: Is it good for dentistry? When convinced, time and cost meant little to him. He was ready at all times to make sacrifice in order to serve his confrères. In spontaneous words several dentists replied, when informed of his death, "I have lost a brother".

To request him to perform a duty, be it small or large, was to have the task performed. His death occurred on a Sunday and on the previous Wednesday we had written requesting him to look after a matter in Montreal. He received the letter on Thursday and on Friday his reply was in our office, reporting the task completed. Such promptness was characteristic of him at all times, no matter what sacrifice might be involved. After signing this letter, and in reference to the new headquarters this postscript followed: "I can hardly wait to see that place". How regretful that he, as Chairman of the Finance Committee, who had so faithfully worked for the headquarters objective should have been denied the privilege of seeing his desire fulfilled.

For some the full three score years and ten, and even more, are allotted while others are taken amid their most fruitful years. Dr. Carver's death coincided with his fiftieth birthday. His sudden passing shocked us all. On one day he was active as usual and the next he was gone at seven o'clock in the morning. The profession has suffered a tremendous loss for he had so much to contribute.

He closely represented the ideal to be striven for by a professional man. The advancement of his profession was his constant endeavour and the many offices he held were graced by sincere effort which left landmarks of note. He was a good citizen. Through his active service club membership he took a leading part in community affairs. His church he served with zeal and with a consistent view of its teachings before him in all his activities. He was a devoted husband and a wise father in a happy home where future years held joy and contentment. How unfortunate it is that three small children will not have the privilege of knowing the calibre of their father.

The throng in attendance at the funeral rites, representing all the groups with which he had been associated and including representatives of the profession from across Canada clearly expressed, without words, the esteem in which he was held by all.

DON W. GULLETT

BOOK REVIEWS

Newer Concepts of Inflammation—

by Valy Menkin, M.A., M.D., 1st Edition, 145 pages, 81 illustrations, The Ryerson Press, Toronto, 1950.

This book is No. 70 in the American Lecture Series and is a monograph in American Lectures in Dentistry. It consists of five chapters, the first four being devoted, each to a specific aspect of the process of inflammation. The last chapter is a recapitulation along with the author's conclusions.

These four interrelated studies are a sequel to one of the author's previous works—**DYNAMICS OF INFLAMMATION**, a book which is now regrettably out of print. In effect, this present volume is a résumé of the author's work during the last ten years or so. It is clearly written and quite understandable even to those who have had a minimum of biochemical training.

Dr. Menkin is an acknowledged leader in his field and here he presents the reader with a biochemical explanation for many of the phenomena of inflammation that are so familiar under the microscope. He begins with an explanation of how the leukocytes get out of the capillaries into the tissues, a process first described so dramatically by Julius Cohnheim about seventy-five years ago and who called it **DIAPYCNOSIS**, meaning a "stepping out" through the capillary walls. The author has isolated a material from exudate that has the property of inducing increased capillary permeability and has called it **LEUKOTAXINE**. In this manner the cells are able to migrate into the tissue spaces. This work negates Sir

Thomas Lewis' theory of a histamine-like substance being responsible for the formation of a weal. The increased capillary permeability and the migration of leukocytes are separate processes, but induced by the same material—leukotaxine. The balance of Chapter One is an explanation of the sequence of cells in an inflammation, pointing out that it is determined by the local pH of the exudate, which in turn, is a reflection of a disturbance of the local carbohydrate metabolism.

Chapter Two deals with the role of inflammation in immunity. This mechanism acts early in the inflammatory process by fixation or "walling off" the injured area. This appears to be a peripheral lymphatic thrombosis and the precipitation of a fibrinous network filled with oedema in the acutely inflamed area. Into this the leukocytes migrate a bit later to take up their function as phagocytes. This is the mechanism that explains the old term "pyogenic membrane".

Opie's explanation of the allergic type of inflammation caused by a foreign protein in a sensitized individual, a process known as the Arthus Phenomenon, is confirmed as being due to the local fixation of the antigen by antibodies, and also to the blockade of the regional lymphatics. Thus it is by this acute, violent reaction with death of tissue that the irritant is kept localized and the internal organs are protected.

The process of phagocytosis that was described so well by Metchnikoff in 1892 is then considered. The phagocytes owe their power to phagocytosis—promoting factors, i.e.

opsonins and tropins that alter the interfacial forces between the phagocyte, the particle and the medium, by favouring the surrounding of the particle by the phagocyte. These phagocytosis-promoting factors are not necessarily opsonizing antibodies, but may be physical states, such as a rough surface.

The author demonstrates the presence of a leukocytosis-promoting factor derived from the injured cells that exhibits the power of stimulating the development of immature granulocytes in the marrow.

Another exudate extract is demonstrated called necrosin, which is thought to be liberated from already injured cells. It is this material that induces severe local lymphatic blockade and damage to the endothelial lining of small blood vessels.

Chapter Four points out the associated increased diabetic state in diabetics experiencing a superimposed inflammation, due, in part, to a local increased proteolysis at the site of injury and the subsequent glucose formation by deamination and, also, the increased glucose from the effects of necrosin on the liver. The excess sugar diffuses into the circulation to increase the blood sugar level.

The very frequent accompaniment of fever along with an inflammation is explained by another extract of injured cells called PYREXIN that acts on the fever centres of the brain.

The text of the book is ably supported by about 200 references and the whole is very attractively bound in black vellum.

H. A. HUNTER

Periodontia, Clinical Pathology and Treatment of the Periodontal Tissues

by Edgar D. Coolidge, B.S., M.S., D.D.S., L.L.D. (Hon.) Professor Emeritus of Therapeutics, Preventive Dentistry and Oral Hygiene, Chicago College of Dental Surgery, School of Dentistry, Loyola University, Chicago and Maynard K. Hine, M.S., D.D.S., Professor of Periodontia, and Histopathology and Dean Indiana University School of Dentistry. 378 Illustrations on 219 Figures and 2 coloured plates. Published by The Macmillan Company of Canada, 70 Bond Street, Toronto, Ont. Price \$7.20.

This book written by two internationally known dentists deals with a subject of paramount importance in the practice of dentistry.

It is truly said that "Unless the tissues which support the teeth are kept in a condition of health, all else in Dentistry is like a house built upon the sand, it cannot endure."

The following subjects are covered, "Oral and Dental Hygiene", "Prophylaxis", "Classification of Pathological Changes", "Treatment of Gingivitis", "Tongue Disturbances", "Periodontitis", "Periodontosis", "Treatment of Atrophy", "Traumatism", "Hyperplasia", "The Use of the Toothbrush".

The periodontist more than any other specialist is the guardian of the patient's oral health and all dentists should be thoroughly familiar with this subject. The purpose of this book is to provide a text that will be helpful in the study of the problems involved in the treatment of periodontal disease. The material used has been accumulated during many years of practice, research and teaching by the authors and is well worth the careful perusal of all dentists.

M.H.G.

The 1950 Year Book of Dentistry,

August 1949-August 1950, edited by Stanley D. Tylman, D.D.S., M.S., Professor of Dental Prosthetics, University of Illinois; Donald A. Keys, D.D.S., Professor of Operative Dentistry, University of Nebraska; John W. Knutson, D.D.S., Dr.P.H., Chief of the Division of Public Health, Washington, D.C.; George R. Moore, D.D.S., M.S., Professor of Orthodontics, University of Michigan; Hamilton B. G. Robinson, D.D.S., Professor of Dentistry, Ohio State University; Carl W. Waldron, M.D., D.D.S., Clinical Professor of Oral Surgery, University of Minnesota. Published by The Year Book Publishers, 200 East Illinois Street, Chicago 11, Illinois. Price \$5.00.

When one considers the editorial staff that compiled this book one is assured of a masterpiece. It covers the subjects of Diagnosis, Pulpal and Periodontal Diseases and Related Pathology, Caries, Public Health, Dentistry for Children, Orthodontics, Surgery and Related Pathology, Restorative and Prosthetic Dentistry. Two hundred and eight different subjects are discussed in this book by three hundred and eighty-four authors, taken from the dental journals of the world, as well as some medical journals. The five hundred and twenty-five pages are attractively bound and should prove enjoyable and profitable reading for all dentists.

M.H.G.

ROYAL CANADIAN DENTAL CORPS NEWS

Lt.-Col. K. M. Baird attended a course on "Technique of Instruction" at Camp Borden, Canada, Jan. 15, 1951.



**Officers of No. 3 Dental Coy., R.C.D.C., Connaught Armouries, Edmonton,
November 21, 1950**

Left to right: Front row—Major G. Decker, Major H. McCaffery, Major R. Stuart, Lt.-Col. W. E. Addinell, Major W. Murray, Major W. Neilson. Second row—Capt. S. Fleming, Cadet Officer W. Stevens, Capt. — — —, Capt. R. Blaquiere, Capt. C. Olsen, Capt. A. Fee, Major S. Riskin, Capt. B. Eastwood, P/Capt. R. Hager, Major C. Duke, Major B. Cameron. Back row— Off. Cadet C. Dewe, P/Capt. S. B. Gerolamy, P/Capt. J. Young, Capt. W. Batiuk, Pte. W. Jarvis, Capt. W. Orobko, Capt. A. Lane, Capt. A. Olsen, Capt. W. Shiels (Pay) No. 3 Coy & 19th Armd. Reg., P/Capt. B. McKenzie, Capt. D. Gilmour. Not in Picture attached outside of city—Major L. Oatway, Red Deer; Major G. Page, Stettler; Capt. M. S. Boyce, Rocky Mountain House; P/Capt. D. Culham, Ponoka.

Of what value is currency when Liberty and Homeland have been sacrificed on the altar of indifference or complacency? It is not less taxes we want but more taxes on our spiritual appreciation, a re-awakening to the stark realities of the day, a re-dedication of the spirit and practice of democracy. It was the banner of freedom NOT the sign of the dollar that secured for us the blessings of liberty.—Ralph Rosen in Bul. of St. Louis D. Soc.

"Oh yes, each man spoils the one he loves, and gratifies her wishes—the rich man showers her with gifts, while the poor man does the dishes!"

CANADIAN DENTAL ASSOCIATION NEWS

FROM THE OFFICE OF THE SECRETARY

The Directorate of Health Insurance Studies, Department of National Health and Welfare, prepared a report on the **National Health Program** for the Federal-Provincial Conference held in December last. The period covered by the report is from May 1948, when the program was initiated, to December 1950.

The achievements for health, initiated through the federal grants, are impressive. Particularly notable is hospital expansion which has occurred as a result of this financial assistance. Some idea can be gained from the following table.

Province	Increased number of beds
Newfoundland	766
Prince Edward Island	272
Nova Scotia	2,195
New Brunswick	619
Québec	7,752
Ontario	6,358
Manitoba	1,891
Saskatchewan	1,302
Alberta	1,796
British Columbia	1,994
Total	24,945

Some 3,511 health workers have received training under the health training grant. Of these 676 have been physicians and 27 have been dentists. The others have been nurses, sanitary engineers, sanitary inspectors, veterinaries, therapists, technicians, nutritionists, etc.

Under employment of additional health workers, as a result of grants, dentists are employed as follows:

	Full Time	Part Time
Newfoundland	2	3
Prince Edward Island	0	0
Nova Scotia	2	0
New Brunswick	2	2
Québec	0	0
Ontario	5	0
Manitoba	2	0
Saskatchewan	11	1
Alberta	0	1
British Columbia	7	17
Totals	31	24

(The above figures are those which appear in the report. We understand that P.E.I. has one full time dentist employed as a result of the grants.)

Programs for children supported by the grants are numerous. It is noted that "a survey of crippling conditions in children is being conducted in Toronto and studies are being carried out on the incidence and causes of harelip and cleft palate". And also "in the city of

Toronto a preventive orthodontic service has been established under the direction of their department of public health to provide orthodontic examination, education and simpler forms of corrective dental service for school children".

A summary of dental services provided for is given:

DENTAL SERVICES

"A total of \$248,000 has been allocated out of federal funds to provide for the establishment of dental services throughout the provinces.

All provinces have taken advantage of the grants for the establishment and extension of preventive dental services for children. Mobile dental clinics are now in operation along with an increased number of stationary establishments. Dentists, dental assistants and nurses have been employed with the assistance of federal funds in every province and more dental personnel have been enabled to undertake training.

In St. John's, *Newfoundland*, a Public Health Dental Clinic has been established at the General Hospital with a staff of eight dentists and clerical personnel. Before this service was inaugurated the province provided essential extractions only. The opening of this dental clinic will make available complete examinations and charting of all defects discovered on first examination of children attending all schools in St. John's. This is a great step forward in the provision of preventive dental services.

Provincial Divisions of dental public health have been established in *Prince Edward Island*, *Nova Scotia* and *New Brunswick* in order to organize a dental program in these provinces. The initial steps are being taken and it is anticipated that immediate measures will be carried out for the establishment of preventive dental service for children.

The Province of *Quebec* has made use of federal grants to supplement its dental program by the employment of additional staff.

In *Ontario* preventive dental service has been inaugurated in a number of health units. Mobile dental equipment has been purchased for St. Catharines, Lincoln, Halton, Welland and Peel Health Units and the necessary staff has been employed to perform examinations and treatment of children. Federal funds have been allocated for the provision of a railway

coach travelling dental clinic for children living in remote communities where no dental services exist. The staff, consisting of a dentist and his assistant, will move from community to community by an itinerary which involves almost 25,000 miles of travelling during each school year.

In *Manitoba*, a self-contained, completely staffed mobile clinic has been established to render preventive dental service in rural schools throughout the province. It is expected that this unit will be able to provide a reasonably good child dental service for from 2,500 to 3,000 children during the school year.

In *Saskatchewan*, an extensive preventive dental program for pre-school and public school children has been inaugurated in the following Health Regions: Weyburn, Moose Jaw, North Battleford and Assiniboia.

In *Alberta*, equipment has been purchased for the City of Calgary Health Department in order to improve the dental service to children.

In *British Columbia*, with the federal funds available, a division of Preventive Dentistry has been established for the organization of the provincial program of dental examination, treatment and education among children. Two dental clinics have been inaugurated as part of the dental hygiene program of the Vancouver Metropolitan Health Committee for children from pre-school age up to fourteen years."

Two dental research projects are reported namely:

1. Study of Effectiveness of Topical Application Sodium Fluoride in control of Dental Caries.
2. Incidence of Tooth Decay in Children.

Announcement has been made by the Dental Health Division of the Department of National Health and Welfare that a **pilot model preventive dental clinic** has been established as a part of the Civil Service Health Division Health Unit.

The purpose of this clinic is to develop the most effective and practical type of purely preventive dental service for people engaged in industrial or office work. No surgical or restorative work will be done. The services of the clinic will be directed at the prevention of periodontal disease and dental caries. Prophylaxis, mouth examinations, including radiograms if necessary, dental counselling and other preventive measures, will be performed by Miss Andree Hebert, Dental Hygienist.

Initially the services will be available to members of the staff of the Department of National Health and Welfare.

Gradually the service will be extended to other government employees. The service is limited in this way in order that the Dental Health Division may be able to study the operation of the service and evaluate its results.

Dr. H. R. McLaren will supervise the operation of the clinic and conduct studies related to its work.

11th International Dental Congress for London in 1952:—Under the auspices of The Federation Dentaire Internationale a Congress is held every five years. With the exception of the war years the Congress has been held regularly since the first occasion in Paris 1900. The last Congress was held in Boston 1947 in conjunction with the meeting of the American Dental Association.

The 11th International Dental Congress will be held in London July 1952. Announcement has been received from Dr. C. de Vere Green, Publicity Chairman that the program of Scientific Papers is complete. Members who wish to take an active part in the scientific deliberations of the Congress may do so by joining in the discussions or by presenting original communications in the form of Table Demonstrations and Scientific Exhibits. Application for this purpose should be made to: Mr. G. A. Morrant, Institute of Dental Surgery, Eastman Dental Hospital, Gray's Inn Road, London, W.C.1.

The Accommodation Committee, which has been formed to give assistance to intending visitors to the Congress, request anyone writing to them to state the type of accommodation required and the possible duration of their stay in London. Early application is advisable. Application for accommodation should be addressed to Mr. Seymour Robinson, Chairman of the Accommodation Committee, XIth International Dental Congress, 13 Hill St., London, W.1.

\$15.00 per capita objective reached by all Provinces: — Information has now been received from all provinces that the \$15 per capita objective presented by the Finance Committee at the Annual Meeting last May has been agreed to. For the first time in many years the Association now possesses an accurate figure for budgeting purposes. The efforts made in all provinces in achieving this objective is most sincerely appreciated.

Statement of the Research Committee of the C.D.A. regarding fluoridation of water supplies: A number of experiments to determine the effect of artificially fluoridating communal water supplies have been in progress for periods ranging up to six years. While none of these studies are yet complete, preliminary

results indicate that a significant reduction in dental caries is being achieved at least in child populations when the teeth have been calcified subsequent to the inauguration of these experiments. Based on these preliminary observations a number of organizations including the American Dental Association, the United States Public Health Service, the State and Territorial Dental Health Directors and the American Waterworks Association have recommended the fluoridation of municipal water supplies where such action is supported by local dental societies.

Because there is not yet one experiment on artificial fluoridation completed the Research Committee of the Canadian Dental Association does not feel justified endorsing without qualification the fluoridation of communal waters. However, in view of the widespread approval given this procedure by other responsible bodies and because no ill effects have so far been noted from the procedure, this committee feels that communities considering fluoridation should be informed that they might reasonably expect some reduction in dental caries to follow such action. At the same time they should recognize that no experimental studies

have yet been completed and that additional facts might emerge from studies now in progress which might modify our present concepts. Furthermore, it should be understood that reduction in caries will be definitely limited and that this method could be at best only an adjunct to other prevention measures. One such study is at present being conducted by the Department of National Health and Welfare, Ottawa. Until this and other studies are finally concluded, this committee is of the opinion that any attempts to reduce the incidence of caries by adding of fluorides to communal water supplies should be undertaken only on a well controlled experimental basis.

Dr. J. P. Whyte appointed representative for Saskatchewan:—At a recent meeting of the Council of the College of Dental Surgeons of Saskatchewan, Dr. J. P. Whyte of Swift Current was appointed Representative to the Board of Governors of the Canadian Dental Association.

Dr. Whyte fills the position made vacant by the resignation of Dr. W. M. Blair.

TABLE 1
Total Enrolment of Undergraduate Students in the Dental Schools of Canada as of January 2nd, 1951

University	Freshmen	Sophomores	Juniors	Seniors	Men	Women	Total
Dalhousie University	12	12	12	12	48	0	48
McGill University	38	32	37	37	144	1	145
University of Montreal	22	54	48	72	196	0	196
University of Toronto	73	69	82	152	376	4	380
University of Alberta	30	33	26	24	113	1	114
Totals	175	200	205	297	877	6	883

TABLE 2
Maximum Number of Undergraduate Students that will be Accepted
in the 1st Dental Year in your School

Dalhousie University	12
McGill University	35
University of Montreal	60
University of Toronto	75
University of Alberta	30
Total	212

TABLE 3
Recapitulation of Undergraduate Enrolment in the Dental Schools of Canada 1940-1950 Inclusive

School	1940-1941	1941-1942	1942-1943	1943-1944	1944-1945	1945-1946	1946-1947	1947-1948	1948-1949	1949-1950	1950-1951
Dalhousie University	31	25	25	22	28	27	38	37	41	48	48
McGill University	58	61	67	67	51	73	111	127	146	147	145
University of Montreal	104	118	139	154	162	184	188	208	224	225	196
University of Toronto	210	232	270	255	264	180	340	435	478	478	380
University of Alberta	51	49	53	24	34	54	108	115	123	136	114
Totals	454	485	554	522	539	518	785	922	1012	1034	883

TABLE 4
Total Number of Graduates During the Years 1940-1950 Inclusive

School	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
Dalhousie University.....	12	7	8	11	6	8	0	10	9	6	11
McGill University.....	13	18	9	26	12	13	5	18	15	34	36
University of Montreal.....	23	14	31	18	37	30	41	36	38	45	42
University of Toronto.....	56	45	40	103	61	58	56	75	24	75	168
University of Alberta.....	13	13	32	8	24	7	0	10	13	20	49
Totals.....	117	97	120	166	140	116	102	149	99	180	306

For the Year 1950

	Male	Female
Dalhousie University.....	10	1
McGill University.....	35	1
University of Montreal.....	42	0
University of Toronto.....	165	3
University of Alberta.....	49	0
	301	5

TABLE 5
Distribution of Undergraduate Students by Provinces and Foreign Countries in the Dental Schools of Canada as of January 2nd, 1951

School	Newfoundland	P.E.I.	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	United States	Br. West Indies	Bermuda	Haiti	Europe	Totals
Dalhousie University.....	3	6	23	15	0	0	0	0	0	0	0	0	0	0	1	48
McGill University.....	3	3	3	5	65	9	6	13	3	16	10	8	1	0	0	145
University of Montreal.....	0	1	2	12	158	6	1	1	0	0	9	0	0	2	4	196
University of Toronto.....	0	1	1	1	1	326	15	17	2	16	0	0	0	0	0	380
University of Alberta.....	0	0	1	0	0	0	2	33	64	14	0	0	0	0	0	114
Totals.....	6	11	30	33	224	341	24	64	69	46	19	8	1	2	5	883

TABLE 6
Additional Students

	Dalhousie University	McGill University	University of Montreal	University of Toronto	University of Alberta	Totals
*Graduate during 1950.....	0	0	2	10	0	12
**Post-graduate during 1950.....	0	0	46	185	0	231
Dental Nurses 1950-51.....	0	3	0	25	0	28
Is course for Dental Hygienists being planned?...	No	Not at present	Yes Sept. 1951	Yes uncertain	Nothing definite	

*The term "graduate" means proceeding to a degree.

**The term "post-graduate" means taking a course other than proceeding to a degree.

There are several effective methods of caries prevention that we employ with young children. Through research work all of these methods have proved effective in the reduction of caries:

1. Reduction of the intake of carbohydrates.
2. Topical application of sodium fluoride.
3. Thorough and regular brushing habits.
4. Application of sound principles of restorative methods.—H. C. Wittich, Saint Paul, Minn., in *N.W. Dent.*

NEWS FROM THE PROVINCES

QUEBEC

A dinner meeting of the **Montreal Dental Club** was held in the Queen's Hotel on January 22 with the president Dr. C. R. Seller in the chair and approximately 75 members in attendance.

The speaker of the evening was one of the Club's own members—one who has been much in demand in recent months—Dr. Johnston W. Abraham, who addressed the meeting on "Some Phases of Practice Management."

Dr. Abraham stated that "Practice Management" should embrace all thoughts and ideas necessary to promote and conduct a successful practice. We should, he believed, study our own personal progress in the past year: am I holding my patients? seeing children? new patients? have I too many or too few patients? We should also ask ourselves whether our work has improved in the past year: has the business end of the practice been satisfactory? has the income been sufficient so that some may be laid aside? is there time for recreation?—have we attended meetings and conventions regularly in the past year? And lastly he suggests that we ask: "Am I as enthusiastic today as I was when I graduated?"

In the past nine months Dr. Abraham has spoken to many societies in Montreal on this subject, it being reviewed in more detail in the June, 1950, Provincial News of The Journal of The C.D.A. In December and January past, he spoke to The Montreal Dental Nurses' and Assistants' Association and in December he addressed the Societe Dentaire in French.

Dr. Abraham was admirably thanked by Dr. Bourke.

Prior to Dr. Abraham's address, Dr. Seller expressed the deep regret of the club at the recent passing of Dr. J. M. Wathen, who was president of the Club in 1921. Dr. Seller also announced that the Club had extended congratulations to Dr. Morrison on his 76th birthday.

RFH.

Radiodontics was the subject presented by Dr. E. S. Dorion to the members of **The Montreal Endodontia Society** at the regular meeting on January 29. The president, Dr. Louis Rosen, who presented the speaker, was in the chair.

With the use of a patient and an actual demonstration of the technique involved, Dr. Dorion described the preliminary inspection and order of procedure necessary towards obtaining proper radiograms. Concerning the principles of Interpretation Dr. Dorion stated that "Radiodontic interpretation is the iden-

tifying and judging of radiographic images to determine conditions of the teeth and contiguous structures. This should be differentiated from diagnosis which is a conclusion derived from correlation of all the information. The reliability of radiodontic service depends upon the quality and number of the radiograms and the judgment exercised in the interpretation."

Dr. Dorion stated that the objective of a radiodontic examination should be one that includes:

1. An extensive periapical area to observe histologic changes and reveal foreign or anomalous bodies.
2. The roots of the teeth with approximate accuracy to determine the number, size, form and location.
3. The lamina dura entirely around the profile of the roots.
4. The crest of the alveolar process.
5. The pulp chambers and canals.
6. The proximal surfaces of the teeth.

The individual radiograms should possess certain technical qualities:—cover the field to the best advantage with a minimum distortion, have maximum definition, suitable density, optimum contrast, present a symmetrical projection of the images and be free from stains, abrasions, artefacts and fog.

Advocating adherence to the Clarence O. Simpson technique, Dr. Dorion stated that the advantages resulting from adherence to the placements recommended:

1. Ensures complete coverage of the entire mouth.
2. Give sufficient overlapping to provide more than one view of almost all the teeth.
3. Imparts orderliness to the mounted pictures.
4. Creates symmetry in the projected images.
5. Facilitates duplication of the picture at some future date.
6. Facilitates modification of other technical factors such as errors in angulation of exposure.

The use of "regular" films rather than radia-tized was advocated due to the fineness of the grain: also the use of a rapid developer (30 seconds at 65° F.), neutralizer and hardening solution: rapid fixer (3 mins.) and washing for 10 mins.

As 90% of the difficulties in radiography occur in the developing room, Dr. Dorion recommended that the temperature of the solutions and rinsing bath be always checked—check the "Safe Light"—and rinse films and clips thoroughly.

The admirable radiograms taken at the meeting of the full mouth survey by

Dr. Dorion fully demonstrated the value of adhering strictly to the principles and technique which he advocated.

The speaker was thanked on behalf of the members by Dr. Bill Swetnam.

The untimely passing of Dr. Ken Carver was referred to by Dr. Rosen and a minute's silence was observed in his memory. RFH.

The Mount Royal Dental Society held a general meeting at the Mount Royal Hotel on Jan. 9, 1951. The Guest speaker for the evening was **Dr. Antoine Raymond** and his topic "**Roentgenogram Interpretation for Oral Surgery**".

Dr. Raymond is an ex-resident of the Oral Surgery Clinic of the Bellevue Hospital in New York and at present is on the staff at the Université de Montreal holding the post of Associate Professor of Anaesthesiology, Assistant Chief of the Department of Oral Surgery and Professor of Anatomy of Head and Neck in the Faculty of Medicine. Dr. Raymond was introduced by Dr. I. Druckman.

In his address Dr. Raymond covered a great variety of oral and dental conditions for which the x-ray is an important diagnostic aid. Topics covered ranged from interpretation of routine intra-oral films to such conditions as multiple impactions, cysts, roots lost in the antra and subluxation of the temporo-mandibular joint as seen on extra-oral films. Dr. Raymond emphasized, however, that x-rays must be regarded only as an aid in diagnosis or treatment-planning and can be used intelligently only in conjunction with a thorough clinical examination and evaluation. The x-ray films, he pointed out, show only changes in the radiated tissue, whether it be tooth, bone or their adnexa, and in itself does not show infection or pathologic changes.

Dr. Raymond showed several cases of extensive radicular and follicular cysts and outlined a method of treatment. He advocated conservative treatment with the objective of saving as many teeth as possible. This can be done by the Pertsch method where an opening is made into the cyst and the pressure relieved by drainage of the fluid and irrigation with a thyrotrycin solution. When pressure is relieved and bone regeneration has taken place, surgery or root canal therapy of the involved teeth may then be undertaken.

In cases of impacted teeth or roots lost in the antra, Dr. Raymond emphasized the importance of accurate localization by intra- and extra-oral roentgenography. He then outlined different procedures for the removal of the offending object. Also outlined was a method

for treatment of mandibular joint subluxation with sclerosing fluid and a surgical method for reduction of fractures of the mandibular condyle.

In closing, Dr. Raymond showed several slides of cases of oral tumours and outlined methods for their removal.

Dr. J. B. Hyams thanked the speaker on behalf of the Society.

Dr. Morton Long

NEW BRUNSWICK

A semiannual meeting of the **New Brunswick Dental Council** was held in Saint John on January 28. Besides routine matters two points of interest were discussed. New by-laws for the N.B. Dental Act were passed and will be submitted to the government and then if approved will be passed by an order in council. The newly formed Civil Defense Committee was discussed and support by the dentists was promised. Dr. Langstroth is the chairman of the new Health Committee for Civil Defense in the province.

NOVA SCOTIA

To improve Dental Services in Nova Scotia's three Provincial Sanatoria, the federal government has allocated funds from its health grants to equip dental clinics in these hospitals. These clinics will operate during the winter months, using staff which is employed during the summer with the province's mobile dental units.

Services of the clinics will be available to indigent inmates of the sanatoria and also to children who are wards of the province, e.g., the Nova Scotia School for Boys at Shelburne.—Dept. National Health and Welfare.

BRITISH COLUMBIA

The Vancouver Pedodontia Study Club has just made a very novel presentation of three chair clinics during the afternoon portion of the Vancouver and District Dental Society's January meeting. The clinics were announced as "televised" chair clinics—and the subsequent program showed an entirely new approach to the problems generally encountered when presenting chair clinics—especially the problem of limited visibility. The credit for the brain-work behind this idea goes entirely to our Study Club president, Dr. Max Nacht. Briefly, this is how the three chair clinics were "televised" simultaneously: **SETTING**—The room was in darkness except for the three operating lights at the chairs. A commentator and a projectionist for 2x2 colour slides,



VANCOUVER PEDODONTIA STUDY CLUB

OPERATORS — Dr. Orville Wright — a class 11 amalgam in a primary molar.
Dr. Gordon Jinks—a vital pulpotomy.
Dr. Max Nacht—a simple cast space maintainer.

Each clinician had taken approximately one dozen colour slides illustrating the important steps in his clinic, and had selected several "breaks" in his clinic where he could be ignored for a time by the audience and the commentator.

The times of starting the three clinics were staggered, and the program continuity was maintained by the commentator who described the picture on the screen at the same moment as that particular step was actually being done in the mouth. The various "breaks" in each clinic enabled the commentator to skip from one clinic to another while some routine and uninteresting phase of the work was being performed. In this manner, three chair clinics were thoroughly covered in less than 1½ hours, and Canada's first "televised" chair clinics were history.

The study Club was gratified by the attendance of a large and enthusiastic audience, and sincerely hope that other dental organizations in the Province will not hesitate to request a repetition of this clinic, or other clinics, at their meetings.

The Executive Committee of the **British Columbia Dental Association** met in Vancouver for the first occasion in the new year on January 20. A large attendance included members from Vancouver, New Westminster, Victoria and Kelowna.

Plans were discussed for sending a group of clinicians to centres in the interior of the province, in April. It is hoped that a group who recently presented a very well organized clinic on Pedodontia, in Vancouver, may make a tour, visiting one or two centres in the Okanagan district and one in the Kootenays, at Nelson. In view of the intensive program now being carried out by the Division of Preventive Dentistry of the Department of Health and Welfare of the Provincial Government, such a clinic on various phases of children's

dentistry would be most appropriate.

Doctor D. J. Sutherland, Councillor for British Columbia for the Pacific Coast Dental Conference, to be held in Seattle next June, announced that the program for the Conference is to be sent to each member of the profession shortly. He urged that those planning to attend the Conference should see to their reservations at once.

A large part of the time of the meeting was taken up with discussion of matters pertaining to the opening of the new dental library. Book cabinets have been installed in the joint quarters of the Association, the College of Dental Surgeons, and the Vancouver and District Dental Society. A large selection of modern texts has been secured, many of which were already on the shelves. The library committee have still much work to do in cataloguing the texts and journals, and in preparing a system of indexing and recording of books on loan. When the preparatory work is completed, a catalogue of all publications on hand will be sent to each practising dentist in the Province, with information as to how the books may be secured.

The February meeting of the **Vancouver and District Dental Society**, held on February 6, in the Hotel Vancouver, consisted of the usual afternoon and evening sessions. In the afternoon, the guest clinician, Doctor Merrill G. Swenson of the University of Oregon at Portland, spoke on "Partial Dentures", and at the dinner meeting his subject was "Complete Dentures". Doctor Swenson is a graduate of the University of Minnesota. He has been a member of the teaching staff of that University, of Denver University, and of New York University. At present he is Professor of Denture Prosthesis at the University of Oregon, and is well known as the author of a text book on "Complete Dentures".

The **Division of Preventive Dentistry of the Department of Health and Welfare** of this Province has recently issued

a letter to members of the profession, urging that those who may wish to take a long holiday in outlying districts of the Province, consider the possibility of combining the holiday with some time given to the practice of dentistry in such areas where the residents have been unable to secure dental services in the past. British Columbia has many small outlying centres of population situated in the heart of the country of greatest attraction to vacationers. A great service to the residents of these districts could be performed by members of our profession on holiday, if they should be willing to extend their stay for a week or two, at no loss to themselves.

The Department announces that it has available for such services a number of sets of transportable dental equipment, including a collapsible chair, composite metal cabinets, operating light and dental engine. The chair, although primarily designed for children, may be adjusted for use with adults. The cabinets include cuspidor, water tank, instrument drawers, and space for drugs, materials, linen, etc. All of the equipment may easily be shipped by train or boat, or even stored in the back and trunk of a large car or station wagon. This equipment is available on loan from the Department, upon application. As the number of sets is limited at this time, those who may be considering such a service should make application for the equipment at once.

MANITOBA

The January and February meetings of the **Winnipeg Dental Society** were quite outstanding from two standpoints, the large attendance and the super-excellence of the clinicians. In January, Dr. Maury Massler of Chicago, Illinois, spoke for several hours without notes on "Oral Infection and Differential Diagnosis and Treatment." His review of the use of antibiotics to control staphylococcus and streptococcus infections was so informative that one could wish that the members of the Winnipeg Medical Society had been present. They were invited to attend the evening session but none showed up! Why? Well, several had season tickets for the Celebrity Concert Series and likewise several members of the dental profession. One wonders why the committee of the Winnipeg Dental Society, when selecting the dates for the winter meetings, do not check with the Celebrity Concert dates to try to avoid conflicting. We regretted not being able to be in two places at once.

The February meeting was distin-

guished by the presence of Dr. Louis I. Grossman of Philadelphia. Dr. Grossman is well known as an endodontist. We heard him four years ago in Montreal where he introduced the use of molten metal for sterilizing cotton pellets and absorbent paper points to be used in the treatment of root canals. The metal used is low fusing such as Melloots metal. At that time the use of antibiotics for root canal treatment had not been adopted. Dr. Grossman spoke on "Treating Pulpless Teeth with Antibiotics." He claims to successfully clear up a putrescent pulp in one treatment and seldom has to resort to three treatments. Immediate root resection will hasten the procedure.

Dr. Joseph Rumberg, President of the Society, presided at both meetings.

J.F.M.

ONTARIO

The Faculty of Dentistry, University of Toronto staff letter reports the following extramural lectures in February—

RENFREW COUNTY DENTAL SOCIETY meeting at Renfrew was addressed by Dr. Harry A. Hunter on February 7.

OTTAWA DENTAL SOCIETY meeting in Ottawa was addressed by Dr. George C. Hare on February 12.

HURON COUNTY DENTAL SOCIETY meeting at Clinton was addressed by Dr. J. R. Fletcher on February 21.

KINGSTON AND DISTRICT DENTAL SOCIETY meeting in Kingston was addressed by Dr. J. H. Johnson on February 21.

INTER-COUNTY DENTAL SOCIETY meeting at Kitchener was addressed by Dr. M. R. Culbert on February 21.

PETERBOROUGH AND DISTRICT DENTAL SOCIETY meeting in Peterborough was addressed by Dr. G. Niki-foruk on February 26.

DURHAM—ONTARIO DENTAL SOCIETY was addressed by Dr. R. E. Moyers at Oshawa on February 28.

Dr. C. H. M. Williams was a guest speaker at the mid-winter meeting of the Chicago Dental Society in February and **Dr. S. A. MacGregor** was guest at the Minnesota State Dental Association at St. Paul February 19-21.

The Faculty of Dentistry also announces that the University senate has approved a resolution that a course for **Dental Hygienists** be established leading to the award of a diploma.

The **London Dental Society** held its second meeting in the 1950-51 series on

January 20 at the Hotel London. The guest clinician was Dr. P. M. Kyprie of Detroit, Michigan, formerly a member of the staff of the University of Detroit and the University of Michigan. The clinic consisted of both afternoon and evening sessions. The afternoon session was on an indirect inlay impression technique while the evening session took the form of a lecture on "The Importance of Good Habit Formation in Relation to Operative Procedures". This paper was followed by slides illustrating the technique discussed in the afternoon. Sixty-one dentists were present for the dinner with President Dr. Doug Stiles presiding at the business meeting. An Amalgam study group has been formed under the chairmanship of Dr. Harley Mason. Dr. Kyprie was introduced by Dr. J. F. Blair and thanked by Dr. Fred Baker.

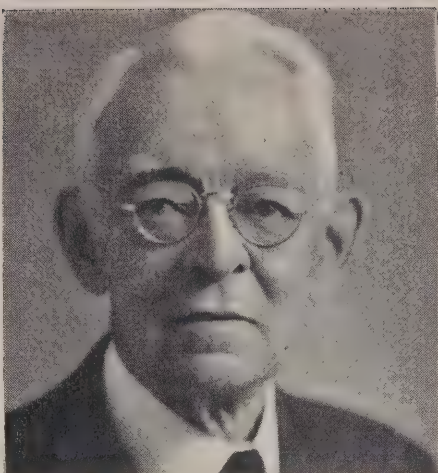
The Toronto Academy of Dentistry Ladies' Night was held at the Royal York Hotel on January 24. It took the form of a dinner and dance with a good orchestra and entertainment. This was a delightful party and was the first function of its kind sponsored by the Academy since before the war. There were about 60 couples present to participate in this very enjoyable evening. This number was very disappointing to the committee in charge which worked very hard and deserved a better patronage. Perhaps another year we can all get dressed in white ties and tails and give real support to the committee who want to honour our ladies.

Brantford Tests of Fluorine Good is the report published in Toronto *Globe and Mail*. The news item goes on to state, "Because of the remarkable results of a five year dental experiment here, TORONTO MAY ADD FLUORINE to its drinking water, N. J. Howard, Toronto's director of water purification says.

"Since 1945 fluorine has been added to Brantford's water supply and there has been a significant drop in tooth decay and a higher proportion of perfect teeth among school children, according to an interim report published by the Brantford fluorine committee.

"The number of school children with perfect teeth in 1950 was 10 per cent higher than in 1945 and there was a 31 per cent reduction in the DMF rate (decayed, missing, filled), the report revealed.

"Dr. A. E. Berry of the Ontario Department of Health, a member of the Brantford committee, predicted fluorine may be added to drinking water through-



DR. WALTER E. WILLMOTT

Dr. Walter Earl Willmott, a familiar figure in so many dental associations, died on February 16 at the age of 85. Slight of stature, perhaps a little bent, a kindly, quiet gentleman, he was known and loved by us all. His passing severs a link with early dental education in Canada. The name of Willmott has been associated with the College of Dentistry in Ontario since its early beginnings, Dr. Walter carrying on the name of his illustrious father, Dean J. B. Willmott.

Dr. Willmott's great interest was dentistry. For many years he served as secretary of the faculty and as a member of the teaching staff of the College of Dentistry of the Royal College of Dental Surgeons, and later in the Faculty of Dentistry until 1932. He was registrar — Secretary-Treasurer of the Board of the Royal College of Dental Surgeons for many years; he was a member of the Senate, University of Toronto from 1932 to 1944; he was treasurer of the Dentist's Legal Protective Association and a founder of the Canadian Oral Prophylactic Association. He completed 57 years in executive office for the profession.

He was a past president of the American Institute of Pedagogics, and the Toronto Dental Society. He was an honorary member of the Ontario Dental Association, the Academy of Dentistry and the Toronto East Dental Society.

In his younger days Dr. Willmott was interested in the University of Toronto Track Club; he was member of The Toronto Bicycle Club and a founder of the Thirteen Club. He enjoyed associations with younger people.

He was an ardent churchman — a member and Elder of Metropolitan United Church. He served for many years as a member of the Sunday School and Epworth League Board of the Methodist Church. He was a past president of the Laymen's Association Toronto Conference of the United Church and a former assistant secretary of the General Conference. He was elected to the first General Council of the United Church.

The death of Dr. Walter Willmott is the passing of a personal friend to every dentist in Ontario and many throughout Canada. Some of us as students remember being entertained in his home on Sunday evening. Others will miss his birthday greetings and others again have personal cherished memories. Until recent years he could call every dentist he met by name, he had a marvellous memory, and now he is gone.

The sincere sympathy of all who know him so well goes to his daughter Mrs. Till of Toronto and Earl of Cheng-tu, China.

out Canada. A large number of municipalities in Ontario had sent inquiries to his department and had been told they could proceed with the experiment, Dr. Berry said.

"To fluorinate Toronto's water would now cost about \$140,000, Mr. Howard told the Brantford committee. He said the city had considered such an experiment in 1946 when costs would have been about \$90,000.

"It cost Brantford only 11 cents per capita to fluorinate its water in 1950.

Despite the \$140,000 cost Toronto was seriously considering the project. "We hope to have it," said Mr. Howard.

"The Brantford experiment is only at the half-way mark and will be continued another five years. A similar project was started in Sarnia in 1948 and an interim report will be published soon. In Newburgh, N.Y., and in Grand Rapids, Mich., similar experiments are being carried out with encouraging results, Dr. Berry reported."

The Toronto Academy of Dentistry held its annual past presidents' dinner

and program on February 14. The arrangements were under the direction of Dr. E. A. White. Dr. Emmett Beckley of Kansas was guest speaker of the evening. He gave a lecture illustrated with coloured motion pictures entitled "A Modern Denture Service." This past presidents' night on the Academy program is a tradition with the organization and merits the active support of the past presidents.

Graduating Class of '16 are making plans to celebrate their 31st Anniversary on May 14. Attend the O.D.A. Convention and be on hand for the re-union party.

Write Dr. E. G. Berry,
300 Spadina Road.

Mrs. J. F. M. Kennedy, wife of Dr. Fred Kennedy of London, Ontario, died on February 16. Sincere sympathy of the many friends of the family within the profession are extended to Dr. Fred at this time.

BRITISH COMMONWEALTH NEWS

GREAT BRITAIN

Proprietary Medicines have received a blow in Britain with the issuance by the Ministry of Health of a list of 700 medicines that physicians are requested not to prescribe under the National Health Service. The idea behind the list, a druggist explained, is to save money for the Health Service, as many of the preparations are expensive and usually something can be prescribed which is just as good but cheaper. However, there is nothing to prevent the public from buying their favorite medicines if they want to "or if they can afford it," the pharmacist added.

The majority of practitioners complain of the **Great Burden of Clerical Work** that has to be carried out. Although most dentists employ secretaries, they must have the clerical part of their practice well organized. The forms for extractions, dentures and routine conservation work take about a fortnight to be approved and returned. The special estimates for bridges, crowns, inlays, orthodontic treatment and minor oral surgery take about a month to return. The majority of criticisms of the scheme are leveled at the Dental Estimates Board. There is a feeling that much of the work there is done by the lay clerks and dentists are annoyed when

estimates are amended, returned for re-submission, or not approved.

Recent regulations make it necessary to complete all conservation work within six months. As most dentists have been working on a three months' appointment system, the new ruling makes it almost impossible for them to complete all the work on hand in the required time. Consequently some dentists will not be paid for some services rendered. At present if conservation work is undertaken it must be completed; that is, all teeth that can be saved must be so treated before payment is authorized. Some patients prefer to have but one tooth filled and wish to leave the treatment of others to a later visit. This cannot be done, according to the regulations, for the dentist will not be able to claim a fee if he does not complete all the conservation work needed by the patient. Hence the desire for a so-called simplified emergency filling form.—Jour. A.D.A.

The number of dentists in the **School Dental Service** is still far short of requirements and the service is floundering under difficulties. Just before Christmas the new salary scale for school medical officers was announced and it is not as high as was hoped. At present, school medical officers are paid fifty pounds more per year than school den-

tal officers. If the new dental scale is fifty pounds less than the new scale for medical officers, the dentists are going to be disappointed. Certainly their income will not approach that of dentists in private practice. The New Zealand Report, which is favorable to the school dental nurses, has added to the fears in some quarters that the School Dental Service, as it was before World War II, is doomed.—*Jour A.D.A.*

Marquand Replaces Bevan as British Minister of Health:—In a shift in the British Cabinet in January, Hilary Adair Marquand replaced Aneurin Bevan as health minister and the functions of the health ministry were reported to be severely curtailed with the new minister no longer sitting in the Cabinet.

Chairside Assistants: The British Dental Journal of January 16 has this to say, in part, about Chairside Assistants. "The unexpectedly heavy demands made upon the profession under the National Health Service and the consequential decline in the facilities available for the inspection and treatment of school children have led to renewed consideration of proposals for lightening

the load to some extent by the use of ancillary or auxiliary workers. In all this, it is a little surprising that, although much has been said about the possibilities of easing the burden on members of the profession by delegating part of their work to other workers such as dental hygienists or dental nurses on the New Zealand pattern, little or no attention has been given to the prospect of improving and amplifying the help which can be given to practitioners by efficient chairside assistants. Although chairside assistants have been employed for something like seventy years, and it has for long been recognized that an efficient chairside assistant can save a dentist a great deal of time and unnecessary work, it is still true that too many members of the profession fail, for one reason or another, to make anything approaching to the maximum use of their services. There are still, for instance, many dentists who, for reasons of false economy, expect one girl to combine the duties of secretary and receptionist with those of chairside assistant, and who would be faintly surprised if they were told that such an arrangement was extravagantly wasteful of their own time."

GENERAL NEWS

Medical Education: To meet the need for more doctors, American medical schools have embarked upon the greatest expansion program in their history, it was reported January 8 at the opening session of the American Conference of Academic Deans. In the next few years \$100,000,000 will be spent for additional buildings, renovation of existing structures and development of new medical schools. All records for total enrolment — 26,193 — have been broken this year. The entering class of 7,187 is likewise the largest freshman class in medical history.—*N.Y. Times.*

British Columbia Chiropractors have won a long struggle for recognition under the Workmen's Compensation Act. Effective January 1, injured workmen covered by the act are allowed to seek treatment by a chiropractor of their own choice, without written permission from a medical practitioner. But a battle is looming between chiropractors and hospital authorities, who have declared that the former will not likely be allowed the use of any hospital facilities in B.C.—*Vancouver Sun.*

National Health Insurance. — Top officials of the American Medical Association

ended their annual clinical session with final shafts at the critics of organized American medicine and a restatement of their stand on current medical questions. The association maintained: (1) There is no real shortage of physicians in this country today. Medical schools are training enough young men annually and the only problem lies in distribution of available doctors. (2) Medical schools must not be subsidized by the Federal Government. The schools will receive financial assistance through funds voluntarily subscribed by individuals, business organizations and other associations, including the A.M.A. (3) The association's campaign against "socialized" medicine will be continued, though the immediate danger has been alleviated by the November elections. New support for the doctors in their fight against the health proposals of President Truman is expected to come from labor unions.—*N.Y. Times.*

International Dentistry lost one of its most distinguished leaders December 7 when Henri Villain, vice-president of the Fédération Dentaire Internationale and brother of the late George Villain, one of its founders, died in Paris at the age of 69.

Dr. Villain's life was spent furthering progress in dentistry, dental education, and public health in France and in other countries, and his influence as a friend and a preceptor extended far beyond the boundaries of his native land.

Life Magazine devoted four pages of its January 8 issue to an article on Dental Caries illustrated with photographs and colored diagrams which show dramatically the cause of caries and mode

of penetration of tooth structure, as well as recommended tooth brushing technique to aid in prevention. The article, prepared with the assistance of the Bureau of Public Information of the Association, includes colored diagrams of magnified sections of teeth which give visual aid to understanding. A photograph of the jaws of two rats, one fed a sugar-free diet and the other fed a diet containing refined sugar, illustrates the effect of sugar on caries production. —Jour. A.D.A.

IN MEMORIAM

J. Kenneth Carver of Montreal, Quebec, aged 50, died suddenly January 28. He was graduated from McGill University in 1923. In 1942 he received a commission in the Canadian Dental Corps which he served until after the Second Great War. He held the rank of Major on his discharge.

Dr. Carver was a member of the Montreal Council 284 Knights of Columbus for 30 years. At 28 he was elected Grand Knight of the Council. He also served as district deputy for the Montreal District.

He was past president of the Canadian Dental Association, the Catholic Laymen's Retreat Association and the Metropolitan Columbus Association. He was also a past president and charter member of the Rotary Club of Westmount. He was vice-president of St. Patrick's Society. He was made a Fellow of the American College of Dentists last November.

Representing the Canadian Dental Association at the funeral service were Dr. R. P. Lowery, President, Toronto; Dr. G. V. Fisk, past president, Toronto; Dr. D. W. Gullett, Secretary, Toronto; Dr. George L. Cameron, past president, Ottawa; Dr. W. Miller of Vancouver representing the College of Dental Surgeons of British Columbia; Dr. W. Scott Hamilton of Edmonton representing the College of Dental Surgeons of Alberta; Dr. S. J. Phillips of Oshawa representing the Royal College of Dental Surgeons of Ontario; Dr. L. A. Kilburn of Ottawa representing the D.V.A.

Dr. Carver is survived by his widow, two sons and one daughter.

C. Alvin Snell of Toronto, Ontario, aged 73, died January 31. He was graduated from the School of Dentistry of the Royal College of Dental Surgeons of Ontario in 1899 and commenced prac-

tice in Essex. In 1917 he moved to Toronto where he specialized in Periodontics.

He was a past president of the Ontario Dental Association, a member of the Toronto Academy of Dentistry and of Eaton Memorial Church.

Dr. Snell is survived by his widow, a daughter and two sons.

E. P. Landry of Moncton, N.B. aged 56, died January 8. He was graduated from Laval University in 1919 and commenced practice in Sackville, moving to Moncton in 1934.

He took a keen interest in sports. He was a member of the Knights of Columbus and of the Moncton Dental Society.

Dr. Landry is survived by his widow and two daughters, also two brothers and two sisters.

J. Elwood Dobson of Toronto, Ontario, aged 61, died suddenly February 4, following a heart attack.

He was graduated from the dental school of the Royal College of Dental Surgeons of Ontario in 1923. He was a member of the National Yacht Club and maintained a summer home at Kleinburg.

Dr. Dobson is survived by his widow and one sister.

Donald L. Pottinger of Vancouver, B.C., aged 54, died in January. He was graduated from University of Oregon School of Dentistry in 1919. Following graduation he practised in Port Alberni, Courtenay, then along the coast of British Columbia for five years, and finally for twenty years in Vancouver.

His hobbies were fishing, hunting and boating.

Dr. Pottinger is survived by his widow, one son, Dr. Michael Pottinger of Vancouver and four sisters.

Le Journal

DE L'ASSOCIATION DENTAIRE CANADIENNE

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Traitement d'urgence de dents antérieures infectées, avant le traitement de canal*

VINCENT TREMBLAY, D.D.S., Montréal

Dans le cas qui nous intéresse, le patient se présente avec tous les symptômes de l'infection aiguë. C'est un patient souffrant et très difficile à traiter. Il s'agit donc de lui donner un traitement qui le soulagera, lui aidera à passer cette crise aiguë, et, après quelques jours, lui permettre de commencer le traitement du canal.

Quelques minutes avant la première séance, donner au patient une tablette de Pentobarbital de Sodium ($1\frac{1}{2}$ grain) pour lui enlever une partie de son appréhension. Dans les cas où l'on craint les complications d'endocardite, il faut donner au patient 300,000 unités internationales de Pénicilline Crystalline G (huileuse, intramusculaire) quelques heures avant la séance.

Lorsque l'on juge le pus suffisamment rassemblé en un point avoisinant l'apex de la dent concernée, il faut donner quelques gouttes de solution anesthésique locale pour nous permettre de faire un légère incision de la gencive et pour mettre en place un drain. Utiliser comme drain, un morceau de digue découpé de la forme d'un I majuscule: (fig. 1) cette forme permet au drain de se maintenir dans l'incision. Le caoutchouc a la propriété de laisser l'incision ouverte pour permettre l'écoulement du pus. On peut utiliser également avec succès une pièce de gutta-

percha d'épaisseur no 28. Ne pas utiliser de la gaze iodoformée comme drain. S'assurer que la dent infectée est relevée de l'occlusion tant centrique que protusive et latérale. Ouvrir la dent du côté lingual; (fig. A, B, C, D) comme la pression de la fraise détermine une douleur, on recommande l'usage d'une pointe ronde en diamant pour traverser l'émail. Dans les cas d'extrême sensibilité à la pression, utiliser une ligature au collet de la dent pour exercer une contrepression à la fraise. Ordinairement, une traction de la dent dans le sens de l'axe de la couronne soulage le patient et permet d'ouvrir du côté lingual sans douleur. L'ouverture doit être assez large pour permettre de voir l'entrée du canal radiculaire. Ne pas essayer de drainer ou de traiter une dent par un trou microscopique du côté lingual. Aspirer le pus du canal en utilisant une pompe à sang dont l'embout a été adapté à une aiguille de gros calibre comme celle des injections intra-arachidiennes. Ce dispositif permet d'obtenir un vide suffisant pour aspirer le pus du canal et soulager la pression apicale. (fig. 2) Se rendre compte que le canal est parfaitement libre jusqu'à l'apex, de sorte que la voie d'écoulement du pus et des tissus nécrotiques puisse se faire également par cette porte de sortie. Une grosse lime de Kerr servira à ouvrir le canal jusqu'à l'apex. (fig.

*Travail préparé dans le service de Dentisterie Opératoire (section d'endodontie), Université de Montréal.

3) Pour nettoyer la lime de Kerr des produits de déchets et du pus on se sert d'un rouleau de coton imprégné de phénol. Il faut insister sur le nettoyage mécanique du canal, et sur l'importance de laisser une voie libre aux produits de déchets, que l'organisme cherche à éliminer. De plus, l'action des médicaments et antiseptiques est grandement compromise par l'accumulation de tissus nécrotiques.

Ensuite laver le canal avec une solution d'hypochlorite de sodium U.S.P.; c'est un

25. Il ne s'agit pas d'injecter sous pression la solution d'hypochlorite dans le canal, mais de laver celui-ci pour entraîner les débris; pour cela, laisser entre l'aiguille et les parois du canal un espace pour le retour du liquide. (fig. 4) Collecter l'excès sur un rouleau de coton.

Assécher le canal avec des pointes de papier absorbant. Placer dans la chambre pulpaire une petite boulette de coton. Par-dessus celle-ci, en placer une seconde imprégnée de vernis protecteur épais. Le

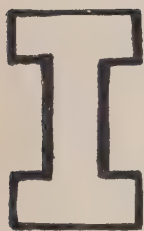


Fig.1



Fig.2



Fig.3



Fig.4



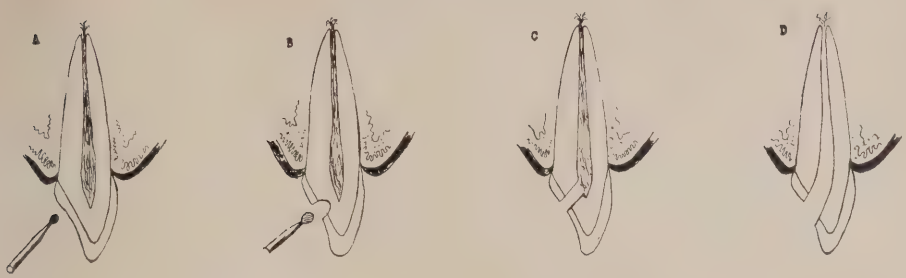
Fig.5

agent qui permet d'entraîner les débris de la pulpe, tout en étant aussi blanchissant et antiseptique. Il prévient la décoloration subséquente de la couronne par les produits de décomposition des protéines pulpaire; l'indol et le skatol sont les principaux responsables de la décoloration de la dent. Il faut donc insister sur le lavage parfait du canal et de la chambre pulpaire avec un agent blanchissant et antiseptique. Utiliser une seringue Posner de 3cc et une aiguille de calibre

but de ceci est de prévenir l'entrée des aliments dans la chambre pulpaire, tout en ne fermant pas le canal de façon hermétique dans l'alternative d'une nouvelle poussée de pus ou de gaz dans le canal. (fig. 5) Ne jamais sceller hermétiquement un canal où la formation de pus ou de gaz est encore active. Ceci pourrait amener une nouvelle poussée d'enflure périapicale ou la formation d'une fistule vestibulaire.

Demander au patient de suivre la mé-

OUVERTURE DE LA DENT DU COTE LINGUAL



Différentes opérations pour obtenir l'accès au foramen apical d'une dent antérieure
A & B. Commencer la cavité avec une petite fraise ronde en diamant dans la pièce à main tenue presque parallèle au grand axe de la dent.
C & D. Elargir et enlever la dentine de façon à prévenir les épaulements.

dication de l'infection mentionnée à la fin de l'article. Si votre patient est une pénicillino-résistant, ou s'il fait de la dermatite allergique à la pénicilline, avec l'avis du médecin changez pour la streptomycine ou une médication plus appropriée. Voir le patient toutes les 48 heures, pour faire un nouveau drainage du pus et le lavage du canal. Quand l'enflure est passée, et le pus tari, commencer la thérapie du canal avec des pointes de papier imprégnées de paramonochlorophénol camphré. Cette technique aidera à sauver des dents antérieures avec poussée aiguë, qui autrement serait vouées à l'extraction.

A. TRAITEMENT GENERAL

- 1—Le repos pour augmenter la résistance du patient.
- 2—Diète riche en protéines, et absorption de liquides.
- 3—Laxatif léger: Lait de Magnésie.
- 4—Antibiotiques: un des suivants par voie intra-musculaire.
Pénicilline G cristalline, huileuse, procainée avec Monostéarate d'Aluminium: 300,000 unités (Beckton, Dickinson)

Pénicilline G cristalline de sodium, 300,000 unités (Bristol Lab.)
Streptomycine: 125 grammes

- 5—Analgésiques:
Acide acétylsalicylique U.S.P. (Aspirin 5 grains Merk)
Tablettes d'Aspirin, 5 grains (Abbott)
Bufferin, (Bristol-Myers)
Acetophenetidin U.S.P. 3 grains (Merk)
Sulfate de Morphine U.S.P. 1/8 à 1/16 de grain
Sulfate de Codéine U.S.P. 1/2 grain

- 6—Sédatifs:
Nembutal, 3/4 à 1 1/2 grains (Abbott)
Pentobarbital de Sodium, U.S.P. 3/4 à 1 1/2 grains (Abbott)
Séconal de Sodium, 1 1/2-3 grains (Lilly)
Hexobarbital 2 à 4 grains (Cook-Waite Lab.)

B. TRAITEMENT LOCAL:

- 1—Drainage de la gencive.
- 2—Drainage de la dent par le canal.
- 3—Applications locales de chaleur,



Inscription aux études dentaires

par ERNEST CHARRON, doyen de la Faculté

Au début de l'année académique 1950-51, la Faculté de chirurgie dentaire de l'Université de Montréal a décidé de modifier les conditions d'admission à ses études. Il ne suffit plus de présenter le diplôme de Bachelier ès Arts d'une Université de la province ou d'autres universités. Le candidat doit fournir la preuve, par les résultats académiques qu'il a obtenus au collège, qu'il possède non seulement une culture générale dans les Humanités et la Philosophie, mais aussi, dans les sciences de base, des aptitudes lui permettant d'aborder avec profit les études dentaires.

Les dossiers des candidats à admission sont donc étudiés à leur mérite. Le classement de l'élève au collège, d'où il vient, est noté. La courbe des notes depuis les Belles-Lettres est analysée par un comité d'hommes versés dans les questions pédagogiques. Les Bacheliers dont le dossier est excellent peuvent, dans certains cas, être admis directement en première année sans examens; ceux, dont le dossier académique est bon, subissent un examen d'entrée, commun aux étudiants en chirurgie dentaire et en médecine. Enfin, les candidats, dont le dossier est insuffisant, en qualité et en quantité, doivent faire une année d'études pré médicales; dans certains cas, ils peuvent purement et simplement être refusés et orientés vers une autre carrière.

Pourquoi ces nouvelles exigences? Pourquoi une solide préparation dans les sciences de base, biologie, chimie et physique, sans exclure les mathématiques nécessaires à l'intelligence des deux dernières? La raison est très simple. Les progrès de la science dentaire sont tels depuis quelques années que les étudiants en chirurgie dentaire doivent suivre pratiquement les mêmes cours précliniques que les étudiants en médecine. C'est la tendance présentement dans les Facultés de chirurgie dentaire les plus réputées du continent. Certaines vont même jusqu'à exiger trois ou quatre années d'études

médicales, après lesquelles l'étudiant se spécialise en art dentaire, comme les médecins en chirurgie, gynécologie, urologie, etc. En fait, les étudiants en chirurgie dentaire de l'Université de Montréal suivent les cours de base: biologie, chimie, physique, anatomie, biochimie, histologie, physiologie, etc. avec les étudiants en médecine et d'après les mêmes programmes. *Ils doivent donc posséder, au moment de leur entrée à l'Université, les mêmes qualités.*

Mais, il y a une autre raison de faire une discrimination entre les Bacheliers. A l'heure actuelle, le grade de Bachelier ès Arts ne correspond pas à un programme unique et standardisé; il couronne quatre années d'études collégiales ou universitaires polymorphes. Certains dossiers d'élèves sont assez bien balancés en culture générale et en sciences; d'autres sont nettement déficitaires dans l'une ou l'autre de ces sections, plus généralement en matière scientifique. Dans le premier cas, l'étudiant, tout en ayant obtenu son grade de Bachelier, peut s'être révélé médiocre en sciences, cela pour diverses raisons qu'il n'y a pas lieu de mentionner ici. L'année pré médicale offre à cet étudiant l'occasion de se racheter et de remédier à l'insuffisance de sa préparation scientifique. Dans le second cas, le déficit en sciences est tellement important qu'il peut contre-indiquer toute inscription en première année dentaire, voire même, l'année dite pré médicale. Bref, le comité d'admission apprécie le Bachelier en tant qu'individu, non le Baccalauréat en tant que grade.

Enfin, comme la médecine, quoique sur un plan différent, la chirurgie dentaire est devenue à la fois un art et une science. Sa pratique repose aujourd'hui sur une solide formation de base en biologie, chimie et physique. On enseigne, à la Faculté, un bon nombre des matières qui font partie du programme d'un cours de médecine. Le praticien aura l'occasion de poser, dans l'exercice de sa profession,

plusieurs actes qui ont la même gravité et peuvent avoir les mêmes conséquences que les actes médicaux. Il est logique

que la Faculté ne recrute que des candidats pleinement qualifiés à aborder de telles études.

Il est très nécessaire pour le bien public que ceux qui travaillent à la bouche ne fassent autre vocation que pour le tirement seulement des dents.

Il faut que ceux qui font la profession de tirer les dents soient expérimentés et approuvés idoines par M. M. les Chirurgiens des Universités, d'autant que plusieurs s'en mêlent sans aucune approbation, se rendant experts en cet art aux dépens et ruine de la santé de chacun, arrachent dents bonnes ou mauvaises, ou partie de mâchoire, ou dent pour autre.

LA FLEUR DES REMEDES CONTRE LE MAL DES DENTS

ARNAUD GILLES
Opérateur pour le mal de dents,
demeurant à Paris,
en l'Isle du Palais, place Dauphine
à l'enseigne des trois dents d'Or.
1623



Comité d'Enquête de l'A.D.C.

Photographie prise lors de la visite des membres du comité d'enquête des facultés dentaires du Canada à l'Université de Montréal. De gauche à droite, on remarque les Drs Harvey Reid et Arthur Walsb, membres du Comité d'Enseignement dentaire de l'A.D.C. et Dr A. C. Lewis, doyen du Collège d'Enseignement de l'Université de Toronto.

Nouvelles de l'Association

Nouveaux quartiers-généraux pour l'A.D.C.

Le déménagement des bureaux de l'A.D.C. dans un nouveau local a coïncidé avec l'arrivée de la Nouvelle Année. Toute correspondance devra maintenant être adressée à 234 rue St-Georges, Toronto.

L'inauguration officielle eut lieu samedi, le 10 février et fut présidée par l'Honorable Paul Martin, ministre de la Santé Nationale et du Bien-Etre Social. Il est regrettable que l'exiguïté des salles ait limité les invitations aux représentants officiels d'organismes professionnels et sanitaires.

Le lendemain, dimanche, le 11, les quartiers-généraux furent ouverts pour des visites, de 2.00 hrs. p.m. à 10.00 hrs. p.m.

Programme de Santé Nationale

La direction des Etudes sur l'Assurance-Santé du Ministère de la Santé Nationale et du Bien-Etre Social a présenté un rapport sur le Programme de Santé Nationale pour la réunion fédéro-provinciale, tenue à Ottawa, en décembre. Ce rapport couvre une période commençant en mai 1948, date du début du programme et allant jusqu'en décembre 1950.

La besogne accomplie dans le domaine de la santé, grâce aux octrois fédéraux, est impressionnante. Cette aide pécuniaire a surtout aidé certains hôpitaux à améliorer leurs services. Un tableau illustre plus bas ces améliorations.

Province	Augmentation du nombre de lits
Terre-Neuve	766
Ile-du-Prince-Edouard	272
Nouvelle-Ecosse	2,195
Nouveau-Brunswick	619
Québec	7,752
Ontario	6,358
Manitoba	1,891
Saskatchewan	1,302
Alberta	1,796
Colombie-Britannique	1,994
Total	24,945

Quelques 3,511 personnes participant au travail pour la santé ont été entraînées

grâce à ce plan. De ce nombre, 676 ont été des médecins et 27, des dentistes. Les autres ont été des garde-malades, des ingénieurs sanitaires, des vétérinaires, des physiothérapeutes, des techniciens, des diététiciens, etc.

Ces octrois ont favorisé l'embauchage d'un personnel sanitaires plus nombreux; de ce nombre, les dentistes figurent comme suit:

	à temps complet	à temps partiel
Terre-Neuve	2	3
Ile-du-Prince-Edouard	0	0
Nouvelle-Ecosse	2	0
Nouveau-Brunswick	2	2
Québec	0	0
Ontario	5	0
Manitoba	2	0
Saskatchewan	11	1
Alberta	0	1
Colombie-Britannique	7	17
Totaux	31	24

(Ces chiffres sont ceux qui apparaissent dans le rapport. Nous croyons, cependant, que l'Ile-du-Prince-Edouard a à son emploi un dentiste à temps complet, grâce aux octrois.)

Nombreuses sont les organisations réalisées pour les enfants par ces octrois. Il est à remarquer "qu'un relevé des états d'infirmités chez les enfants est à se faire dans Toronto et que des études sont poussées pour déterminer la fréquence et les causes des becs-de-lièvre et des fissures palatines." Et aussi, "qu'un service d'orthodontie préventive a été organisé à Toronto sous la direction du Service de Santé, pour prodiguer des examens d'orthodontie, promouvoir l'éducation et enseigner des techniques faciles de correction dentaire pour les écoliers."

Un résumé des disponibilités dentaires officielles dans chaque province, est fait ci-après.

Services Dentaires

Une somme de \$248,000 a été fournie à même les fonds fédéraux pour l'institution de services dentaires dans chaque province.

Toutes les provinces ont profité de ces octrois pour établir ou intensifier les ser-

vices dentaires aux enfants. Des cliniques dentaires mobiles sont en activité et on a établi un plus grand nombre de cliniques stationnaires. Les argents fédéraux ont permis à toutes les provinces d'embaucher des dentistes, des assistantes et des gardes-malades dentaires et un nombre plus élevé de membres de personnel dentaire a pu commencer ses études.

A St-Jean, *Terre-Neuve*, une clinique dentaire publique a été ouverte à l'Hôpital Général avec une équipe de 8 dentistes et le personnel adéquat. Avant l'inauguration de cette clinique, la province autorisait seulement des extractions, dans les cas d'urgence.

L'établissement de cette clinique permet de faire des examens complets et d'inscrire sur des dossiers toutes les déficiences trouvées dans les bouches des écoliers de St-Jean. Cette initiative est un pas immense accompli vers l'institution de services dentaires préventifs.

Des départements dentaires ont été ajoutés aux services des Ministères de la Santé des provinces de *l'Île du Prince-Edouard*, de *Nouvelle-Ecosse* et du *Nouveau-Brunswick* pour organiser un programme dentaire dans ces provinces. Les prémices ont été posées et des mesures seront immédiatement prises pour établir des services dentaires préventifs pour les enfants.

La province de *Québec* a utilisé les octrois fédéraux pour intensifier son programme dentaire, en augmentant le personnel de ce service.

En *Ontario*, on a commencé un service dentaire préventif dans plusieurs unités sanitaires. Des équipements dentaires mobiles ont été achetés pour St-Catharines, Lincoln, Welland et Peel et on a embauché le personnel nécessaire aux examens et aux traitements des enfants. Les octrois fédéraux ont permis de se procurer un wagon de chemin de fer, qui contient une clinique dentaire destinée aux enfants des localités éloignées, qui ne disposent pas de services dentaires. L'équipe, qui est constituée par un dentiste et son assistante se promènera de village en village d'après un itinéraire qui comprendra 25,000 milles, durant chaque période scolaire. Au *Manitoba*, on a

équipé une clinique complète mobile qui offre des services dentaires préventifs aux écoles rurales aux quatre coins de la province. On espère ainsi prodiguer à 2,500 ou 3,000 enfants des soins dentaires raisonnables durant l'année scolaire.

La province de *Saskatchewan* a commencé un programme d'envergure d'hygiène dentaire pour les enfants d'âge scolaire et pré-scolaire dans les unités sanitaires des régions suivantes: Wayburn, Moose Jaw, North Battleford et Assiniboine.

En *Alberta*, on a acheté un équipement pour le Service de Santé de Calgary pour améliorer les services dentaires procurés aux enfants.

En *Colombie-Britannique*, à l'aide des octrois fédéraux, on a organisé un département d'hygiène dentaire qui est en train de mettre sur pied un programme provincial dentaire d'examen, de traitement et d'éducation chez les enfants. Deux cliniques ont été ouvertes sous la direction du Vancouver Metropolitan Health Committee pour les enfants à partir d'âge pré-scolaire jusqu'à quatorze ans. Ce premier pas fait partie du projet général.

Deux projets de recherches ont été amorcés:

- 1) Etude de l'efficacité d'applications topiques de fluorure de sodium sur le contrôle de la carie.
- 2) Fréquence des caries chez les enfants.

Un ministère fédéral établit une clinique dentaire préventive

On annonce que la Division d'Hygiène Dentaire au Ministère de la Santé Nationale et du Bien-Etre Social vient d'installer une clinique modèle de dentisterie préventive dans l'unité sanitaire de la Commission du Service Civil.

Le but de cette clinique est de mettre au point un ensemble de méthodes pratiques, purement préventives, susceptibles de rendre service aux employés d'industrie et de bureau. Nul travail de restauration ou de chirurgie ne sera fait dans cette clinique. On se contentera de mettre en oeuvre des moyens de prévenir les maladies gingivales et la carie. Prophylaxies, examens, radiographies au besoin,

conseils et d'autres mesures préventives seront utilisées par Mlle Andrée Hébert, hygiéniste dentaire.

Au début, les membres du personnel du Ministère de la Santé Nationale et du Bien-Être seront reçus à cette clinique. Plus tard, on s'occupera des autres employés du gouvernement. Ce service est aussi organisé pour permettre à la Division Dentaire d'étudier son fonctionnement et d'en évaluer les résultats.

Le Dr H. R. McLaren dirigera cette clinique et compilera les rapports.

11e Congrès de la Fédération Dentaire Internationale

Tous les cinq ans, la Fédération Dentaire Internationale organise un congrès. Les années de guerre exceptées, la F.D.I. a eu ses congrès régulièrement depuis 1900, le premier ayant eu lieu à Paris. La dernière réunion a été tenue à Boston, en 1947 conjointement avec le congrès de l'Association Dentaire Américaine.

Le 11e Congrès International aura lieu à Londres, en juillet 1952. Le Dr C. de Vere Green, président du Comité de Publicité vient de nous faire savoir que le programme scientifique est complété. Les membres, qui désirent prendre part active aux délibérations scientifiques de ce Congrès, peuvent le faire en contribuant aux discussions ou en préparant des commu-

nications personnelles sous forme de Cliniques de Table ou d'Exhibits Scientifiques. Les demandes d'enregistrement pour ces travaux se font en s'adressant à M. G. A. Morrant, Institut de Chirurgie, Hôpital Dentaire Eastman, Gray's Inn Road, London, W.C. 1.

Le Comité de Réception, organisé pour rendre service aux visiteurs étrangers, demande à tous ceux qui se proposent d'assister à ce Congrès, d'écrire en leur disant la durée de leur séjour et le genre d'arrangement hôtelier, qu'ils désirent avoir. Un enregistrement hâtif est désirable. Les demandes d'enregistrement se font à M. Seymour Robinson, président du Comité de Réception, 11e Congrès Dentaire International, 13 Hill St., London, W. 1.

Toutes les provinces atteignent l'objectif de \$15 par membre

On apprend que toutes les provinces ont atteint l'objectif de \$15 par membre, tel que suggéré par le Comité des Finances, à la dernière réunion du mois de mai. L'Association, pour la première fois depuis plusieurs années, pourra tabler sur un chiffre défini pour ses besoins budgétaires. L'effort accompli par chacune des provinces pour atteindre cet objectif est sincèrement apprécié.

Liste des cours postsecondaires qui seront donnés d'ici la fin de l'année académique 1950-51

Chirurgie et Anesthésie:

Du 23 au 28 avril
(une semaine complète)

Les 5, 6, 8, 13, 14 et 15 mars
(demi-journée)

Endodontie:

Les 8, 15 et 22 mai

Prothèse:

Du 5 au 10 mars

Pédodontie:

Les 10, 11, 12 et 13 avril

Diagnostic:

Du 12 au 17 mars

Orthodontie:

Du 8 au 14 juillet (Cours donné par le Dr Joseph E. Johnson)



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Progrès dans l'Enseignement dentaire

Dans des lignes, qui paraissent plus haut, le doyen de la faculté de Chirurgie Dentaire de l'Université de Montréal définit les nouvelles conditions d'admission aux études dentaires.

A la lecture de ces exigences, on notera tout de suite que seuls les finissants de collèges les plus doués au point de vue scientifique, peuvent s'inscrire comme futurs dentistes. Bien révolus sont les temps où il suffisait d'être le possesseur d'un baccalauréat pour se voir ouvrir bien grandes les portes de toutes les facultés. L'examen des qualifications "sine qua non" de l'inscription à la faculté dentaire révélera un indice des tendances générales dans les domaine des carrières libérales. L'accès aux diverses professions devient plus difficile et seuls ceux, qui sont dûment qualifiés, peuvent les aborder. Autrefois, le choix d'un champ d'activité était souvent basé sur des impressions et sur des émotivités qui n'avaient rien de concret et de positif. On choisissait une profession pour des raisons des plus futiles, sans que le caractère et les dispositions du jeune homme et de la jeune fille soient mis en cause.

L'orientation professionnelle a mis un peu d'ordre dans les préférences de ces diplômés. Mais la règle qui permet de mieux évaluer les aptitudes de ces candidats, consiste dans l'examen de leurs dossiers collégiaux. Ces notes obtenues aux concours, montrent en blanc et en noir les facilités et les lacunes de ces élèves et il devient alors facile de conseiller ou de déconseiller —selon le cas—les carrières scientifiques.

En 1936, le Collège des Chirurgiens-Dentistes, de concert avec les dirigeants de la faculté, exigeait le baccalauréat "es arts" pour l'inscription aux études.

En 1950, la faculté dentaire organise avec la faculté médicale un comité

conjoint d'admission, qui scrute le dossier de chaque candidat et évalue ses aptitudes scientifiques.

Une nation, comme une profession d'ailleurs, monte dans l'échelle de la valeur, degré par degré. Un peuple améliore son rendement intellectuel et scientifique quand les générations nouvelles qui apparaissent à la surface, sont de meilleure qualité que celles qu'elles remplacent. En un mot, une famille s'ennoblit, se grandit et s'affine, quand les fils ont un caractère supérieur à celui du père.

Les applications pratiques de ces constatations sont de deux espèces. D'abord, il est nécessaire que les étudiants, qui sentent en eux une vocation pour la dentisterie soignent leurs mathématiques et leurs sciences, quand ils sont au stage collégial. Ensuite, il faut que les programmes d'études des collèges soient révisés pour les rendre plus conformes aux exigences d'admission des facultés scientifiques.

Gérard de Montigny



Le Bureau du Secrétaire

Ci-haut, une photographie d'un aspect des nouveaux locaux de l'Association Dentaire Canadienne, rue St-Georges, à Toronto.

Cet édifice, acheté grâce aux contributions des membres corporatifs (provinces) de l'Association, est situé dans une section résidentielle de Toronto, à deux pas du quartier des affaires; sa superficie a permis l'élaboration d'une vaste bibliothèque, d'une grande salle pour les réunions des comités et de bureaux pour le secrétaire et ses assistants.

Ces nouveaux quartiers-généraux ont été officiellement inaugurés le 10 février, par l'Honorable Paul Martin, Ministre de la Santé Nationale et du Bien-Etre Social, en présence de dignitaires représentant toutes les sphères s'occupant de la santé de la population canadienne.

Cet édifice, rénové pour les besoins de notre Association, fait honneur aux dentistes canadiens!

Tous les Canadiens doivent avoir une bouche saine*

par l'HONORABLE PAUL MARTIN,

Ministre de la Santé Nationale et du Bien-Etre Social

C'est avec un vif plaisir que j'ai accepté la gracieuse invitation de votre secrétaire, le Dr Don Gullett, d'être présent à cette réunion importante et d'inaugurer officiellement les quartiers-généraux nationaux de l'Association Dentaire Canadienne.

Le geste, que nous posons aujourd'hui, marque une date mémorable dans l'histoire de la dentisterie canadienne. C'est la première fois, à mon avis, qu'une organisation professionnelle de santé établit des quartiers-généraux, qui lui appartiennent en propre. Cette réalisation constitue un exemple louable de coopération, puisqu'on me dit que les argents utilisés pour l'achat de cet édifice ont été amassés volontairement par les membres de la profession dans toutes les provinces.

L'Association Dentaire Canadienne, qui groupe les dix provinces canadiennes, célébrera l'an prochain ses noces d'or. Il faut souligner le fait que la profession dentaire canadienne, qui n'a que soixante-quinze années d'âge, possède une Association active depuis quarante-huit ans.

Durant votre demi-siècle de service à la profession et au peuple du Canada, l'hygiène dentaire est devenue une nécessité sanitaire de premier plan. Votre Association a joué un rôle essentiel dans tous les domaines, recherches, prévention, traitements, éducation. Le niveau élevé qu'occupe aujourd'hui la profession dentaire canadienne est dû en grande partie à une association telle que la vôtre, organisée par le groupement libre et amical de ses membres.

La Dentisterie et sa Place dans le Programme National de Santé

Ces deux dernières années et demie, le Programme National de santé a fait beaucoup pour l'avancement de la dentisterie du Canada. Le plan compréhensif de ce programme est maintenant bien compris

de tout dentiste canadien. Permettez-moi, cependant, de vous souligner brièvement les réalisations marquantes rendues possibles par les octrois fédéraux aux provinces:

- des octrois substantiels ont été faits aux provinces pour intensifier leurs services dentaires;
 - des enquêtes sont à amasser dans renseignements sérieux sur les besoins dentaires locaux de chaque province; ces chiffres aideront beaucoup dans l'élaboration des programmes de l'avenir;
 - soixante-six dentistes ont été embauchés, à temps complet et à temps partiel, dans des hôpitaux, des cliniques et des unités sanitaires à travers le Canada;
 - un grand nombre de dentistes sont à suivre des cours en Hygiène Dentaire Publique dans les universités; ces dentistes aideront au développement des services locaux d'hygiène;
 - toutes les provinces ont tenu à profiter des octrois pour intensifier leurs services dentaires préventifs en faveur des enfants;
 - on a organisé des cliniques dentaires mobiles et des cliniques dentaires plus nombreuses;
 - plusieurs provinces ont mis sur pied des départements d'hygiène dentaire;
 - des sanatoria pour aliénés et pour tuberculeux ont été dotés de cliniques dentaires;
 - on a accéléré les recherches en hygiène dentaire en augmentant le personnel et les facilités de travail dans les laboratoires;
 - dans une province, on donne à certains dentistes des octrois personnels pour leur permettre d'exercer dans des endroits où il n'y avait pas de facilités pour des traitements dentaires;
- Toutes ces allocations ont fait naître

*Discours prononcé à l'occasion de l'inauguration officielle des nouveaux locaux de l'Association Dentaire Canadienne, à Toronto, le 10 février 1951.

entre les gouvernements concernés, les membres de la profession dentaire et l'Association Dentaire Canadienne un esprit d'équipe et de collaboration incessante.

Le Problème de Santé le Plus Négligé au Canada

Les maladies dentaires constituent un des plus graves problèmes du Canada. La carie affecte 99% de toute la population. Un enfant sur deux, de trois ans et demi, a une dent ou plus de cariée. La plupart des enfants ont déjà perdu au moins une dent par la carie, avant de laisser l'école élémentaire. Chez les adultes, les maladies des gencives font beaucoup de ravage. Passé trente ans, plus de dents sont perdues par les pathologies gingivales qu'à cause de carie, comme on le constate chez les plus jeunes.

Il ne faut pas que j'apporte des statistiques à un groupe de dentistes. Je devrais les citer aux pères et aux mères canadiennes; pourtant ils connaissent bien cette situation déplorable. Les dentistes connaissent parfaitement tous les angles de la prévention et du traitement de la carie dentaire et des maladies des gencives. Il est malheureux que nous ne profitons pas d'avantage de leurs connaissances. Des autorités ont évalué à seulement 30% le nombre de nos concitoyens, qui font suivre leurs dents par le dentiste et la grande majorité n'a recours aux services dentaires que dans les cas d'urgence, habituellement quand des extractions s'imposent.

Trop de gens s'imaginent que la santé consiste dans l'absence de maladie et la santé dentaire dans l'absence de douleur. Nous n'entendons pas souvent dire que des gens meurent directement de carie dentaire et nous sommes portés, de ce fait, à négliger nos dents jusqu'au moment où nous avons des ennuis graves. Trop de gens ne considèrent pas — seulement quand il est trop tard — la carie dentaire comme un "maladie" quoiqu'il a été prouvé qu'il y a une relation intime entre l'état des dents, la santé en général et probablement la longévité.

Les dents ont été négligées aussi à cause de la pénurie de dentistes et leur distribution inégale dans les centres ru-

raux et urbains et aussi dans les différentes provinces. Au cours des six dernières années, 786 nouveaux dentistes sont sortis de nos universités; pourtant à cause des mortalités et des retraites, il n'y eu une augmentation du nombre de dentistes que d'un chiffre de 113. D'autre part, durant la période correspondante, la population du Canada a augmenté de 1,700,000 âmes.

Un des problèmes, qui n'a pas encore eu sa solution, est de procurer à la population canadienne un nombre de dentistes suffisant pour ses besoins, sans altérer en rien le niveau élevé de votre profession.

L'Importance de l'Education, de la Prévention et des Recherches

L'apathie du public en regard de la chose dentaire peut être combattue seulement par l'éducation. L'Association Dentaire Canadienne, en distribuant une littérature traitant de dentisterie et en organisant des émissions radiophoniques intéressantes fait une oeuvre splendide en faveur de l'éducation de la population de tout le Canada en ce qui a trait à l'hygiène dentaire.

Il fut un temps où la dentisterie, par la force des choses, devait se contenter de réparer les dommages du passé plutôt que de construire pour l'avenir. Depuis quelques années, nous en sommes venus à réaliser que, non seulement dans le domaine dentaire mais aussi dans toutes les activités sanitaires, "une once de prévention vaut mieux qu'une livre de traitement." Le développement des services dentaires dans les écoles; l'importance grandissante qu'on accorde aux dents temporaires; les traitements hâtifs donnés à la carie, aux malocclusions et aux maladies des gencives; l'attention plus grande donnée à une diète rationnelle et à l'hygiène buccale sont des indices de la modification des concepts touchant la prévention.

Tous nos programmes de prévention accordent beaucoup d'attention à l'enfant; c'est qu'aujourd'hui on se rend de plus en plus compte que le traitement de l'enfant conditionne l'état dentaire de l'adulte. La génération montante est actuellement instruite du rôle prépon-

dérant de l'hygiène dentaire dans une existence heureuse.

Dans le domaine des recherches, un bon nombre de possibilités intéressantes sont sur le métier. Depuis quelques années, on s'occupe de l'emploi des fluorures comme préventifs de la carie dentaire. Actuellement, le Dr H. K. Brown, chef de la division dentaire de mon Ministère, est à faire une étude de l'état des dents d'enfants de Brantford pris au hasard en le comparant avec celui d'enfants de Sarnia, le tout en rapport avec l'addition de fluorures à l'eau des aqueducs.

Les conclusions de cette expérience comparées avec celles qui ont été obtenues à Stratford, où il y a une teneur idéale de fluorure dans l'eau potable, seront de nature à contribuer beaucoup aux recherches dentaires du pays. D'autres dentistes canadiens font aussi des recherches sur les effets de l'application de fluorures sur l'émail des dents.

D'autres façons de contrôler la carie sont à être mises au point par des chercheurs du Canada et des Etats-Unis. Mais il n'existe aucun moyen sûr actuellement de la prévenir. En plus de projets de recherches dentaires proprement dites, il en est d'autres qui sont entrepris grâce à des octrois fédéraux d'Hygiène Générale Publique, pour augmenter nos connaissances sur les relations qui existent entre la santé dentaire et la santé en général.

Je viens de parler des trois armes—éducation, prévention et recherches—qui sont de nature à intensifier nos efforts dans le but d'améliorer l'état dentaire de

notre population. Il en est une quatrième, et sous plusieurs aspects, elle est la plus importante; je veux dire, la directive. C'est en vain que l'éducation des masses, les programmes de prévention et les recherches sont poussés, si le tout n'est présidé par une directive bien comprise. Cette directive doit venir des divers gouvernements du pays, des organismes professionnels tels que l'Association Dentaire Canadienne et surtout de chacun des dentistes en particulier. Les soixante-quinze ans d'existence de la profession dentaire canadienne ont établi une tradition d'honnêteté et de compétence professionnelle.

Grâce aux dentistes de notre pays et aussi grâce à des organisations telles que l'Association Dentaire Canadienne nous sommes assurés, pour l'avenir, de la sauvegarde des standards d'enseignement dentaire dans nos universités; de l'appui de toute activité de nature à éveiller l'attention du public aux problèmes d'hygiène dentaire; du support accordé aux recherches et au travail scientifique; et des efforts tendant à substituer le concept de la prévention et du traitement de la carie dentaire à celui du remplacement des dents.

L'inauguration de ces quartiers-généraux nationaux de l'Association Dentaire Canadienne est un symbole du début d'une nouvelle époque de la dentisterie canadienne. Je crois que ces nouveaux horizons indiqueront aux citoyens du Canada des moyens et des traitements plus surs pour la conservation de leurs dents en bon état. La profession dentaire se chargera de cette tâche.

Deuil pour l'Association dentaire canadienne, décès du Dr Ken Carver

Le 31 janvier 1951, mourrait à l'âge de 50 ans, le docteur Kenneth Carver, de Montréal.

Le docteur Carver était bien connu de tous ceux qui se sont occupé d'organisation professionnelle, car il était toujours au premier rang de ceux prêts à se dévouer sans compter pour l'avantage de la dentisterie.

Ancien président de l'Association dentaire canadienne (1947), ancien président du Montréal Dental Club (1941), vice-président du Collège des chirurgiens-dentistes de la Province de Québec (1951), président du Comité des finances de l'A.D.C. (1951), chargé de cours à la Faculté dentaire de l'Université McGill, attaché à l'Hôpital St. Mary's, ancien

membre du corps dentaire canadien (major), ancien grand chevalier des C. de C., vice-président de la Société St. Patrick de Montréal, F.I.C.D., F.A.C.D., etc. . . , le Dr Carver, comme on peut le voir, toute sa vie, a été au premier rang des organisations professionnelles, sociales et religieuses.

Sa disparition produit un vide immense chez les dirigeants de notre Association, où son esprit clairvoyant, son talent d'orateur et son bilinguisme le mettait en vedette.

On peut résumer l'exposé de sa carrière en citant les paroles du secrétaire de l'A.D.C., le Dr Don Gullett, en apprenant la mort subite de Ken: "Ken Carver n'est plus. Que peut-on dire d'un confrère qui s'est donné sans compter à sa profession? Une seule question fut toujours sur ses lèvres: "Quels profits en tirera la dentisterie?" Sa conviction lui faisait oublier son temps, et ses efforts. Toujours sur la brèche, il était prêt à tous les sacrifices pour servir ses confrères. La réaction de plusieurs dentistes à l'annonce de sa mort a été: "J'ai perdu un frère'."

Lui demander un service, petit ou grand, voulait dire considérer la chose comme accomplie. Il est mort un dimanche et le mercredi précédent nous lui avions demandé de s'occuper de quelque chose à Montréal. Jeudi il avait sa lettre et vendredi, nous avions sa réponse rendue à notre bureau nous disant qu'il avait fait ce que nous lui demandions; la promptitude était innée chez lui, peu importe les sacrifices exigés. Après la

signature de sa lettre, parlant de l'inauguration des nouveaux quartiers-généraux,, il écrivait en post-scriptum: "J'ai bien hâte de voir cet édifice." Il est bien regrettable qu'en sa qualité de président du Comité des finances, lui, qui avait tant travaillé à la réalisation de ce projet, il n'ait pu voir son grand désir réalisé.

Quelques hommes vivent jusqu'à un âge avancé; d'autres disparaissent durant les années les plus productives. La mort du Dr Carver coïncide avec son cinquantième anniversaire de naissance. Son décès subit nous a tous surpris. Samedi, il était actif comme à l'ordinaire; dimanche il n'était plus. La profession a subi une bien lourde perte, parce qu'il lui était bien précieux.

Il représentait l'idéal du professionnel. Le progrès de sa profession fut son but constant et les nombreuses charges qu'il occupa furent remplies avec sincérité et effort: il a laissé des traces ineffaçables. Il fut un bon citoyen. Il prit une part active aux activités sociales de son milieu. Il a bien servi sa religion, et a vécu toujours ses enseignements. Il fut un bon mari et un père averti dans un foyer heureux et confiant en l'avenir. Il est malheureux que ses trois petits enfants n'aient pu apprécier à sa valeur la trempe du caractère de leur père.

La foule qui se pressait à ses funérailles, représentant tous les groupes qu'il avait fréquentés et comptant des dentistes de tous les coins du pays, indiquait clairement, sans qu'on ait à le dire, la grande estime que tous avaient pour lui."

Après avoir lu les livres qui pouvaient servir à mon instruction j'ai vu que la matière n'était rien moins qu'épuisée. L'observation et l'expérience m'ont fait découvrir un champ fécond dont on ne verra pas si-tot les limites. M. Fauchard qui l'a si bien défriché a été mon guide, et quand j'ai pu marcher sans maître. j'ai appris à respecter mes maîtres, à les abandonner quelquefois, et à ne diminuer jamais rien de l'estime qui leur est due.

par M. BOURDET
Dentiste reçu au Collège de Chirurgie.
MDCLVII
avec approbation et privilège du Roi.

Prayer of Dedication

at the opening ceremonies of the

New Headquarters building of the Canadian Dental Association

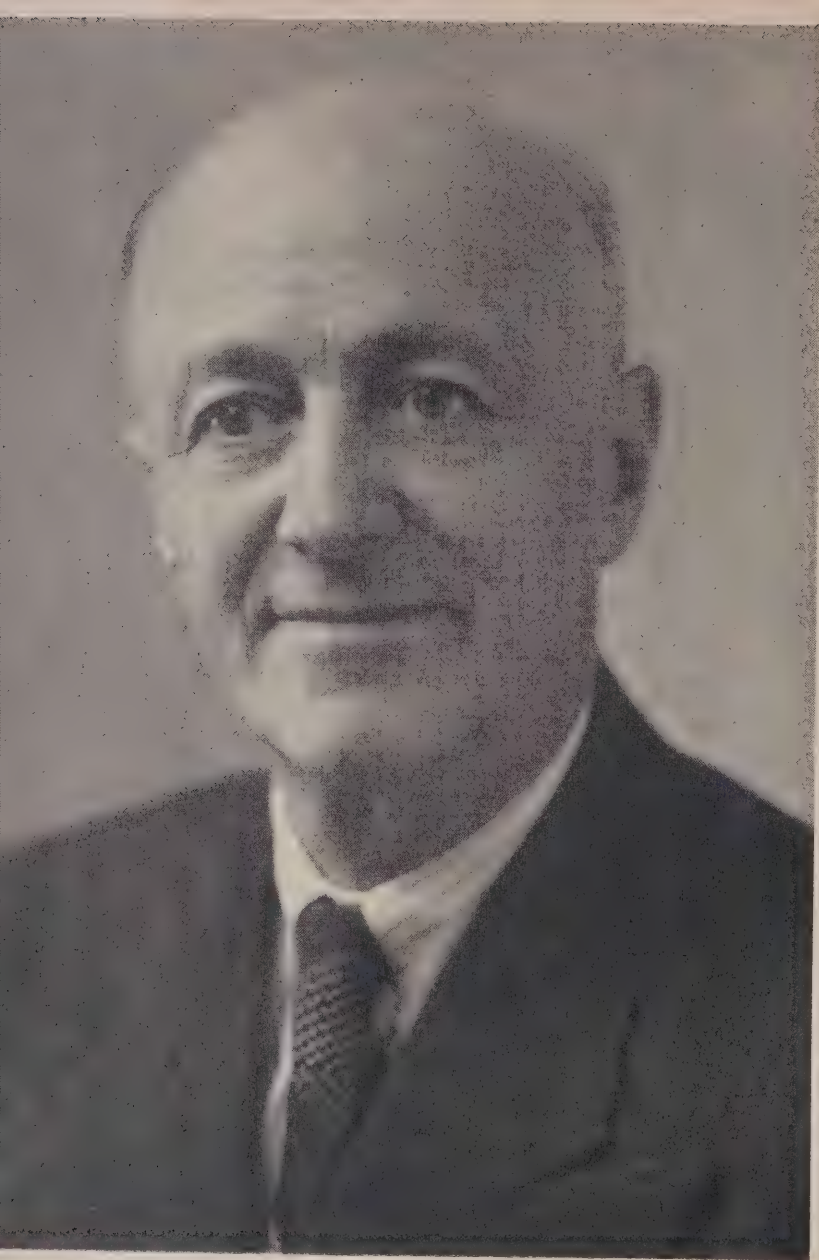
by the Very Rev. GEORGE C. PIDGEON, D.D.

O God of love, O king of peace, we approach Thee in the name of Thy Son who called Himself the Servant of servants. We thank Thee for enabling Thy servants to erect this centre of friendship and fellowship, of consultation and co-operation and inspiration among brothers dedicated to a common task. Set this house apart and keep it sacred to the cultivation of the best in the minds and purposes of those who assemble within its walls. In a time of abounding hatred we praise Thee for men and women of goodwill; in a time of wars and rumours of wars we bless Thee for people pledged to the pursuits of peace; in a time when many strive for power and place, we praise Thee for those who serve.

Here may the spirit of true comradeship ever prevail. Here may new ideas be given and new methods devised for more skilful ministry to the needs and sufferings of the people. Here may the discouraged find new hope and inspiration; here may the victim of circumstances find help to start anew; here may the alone and lonely be brought into the circle of brotherhood where the welfare of each is the concern of all. Here may strength and inventiveness find opportunity to give the help his brethren need.

O Thou great Healer, bless and prosper every movement toward the health and happiness of the many, and, particularly, do Thou grant true success to this association in its effort toward the common good. In Thy great world one may plant and another water, but God alone can give the increase; crown now their efforts with the success which Thou alone canst give.

We ask all in the name of Christ, our Lord, who taught us thus to pray;—"Our Father who art in Heaven - - - - -



ANTOINE J. CORMIER, D.D.S., F.A.C.D.
Moncton, New Brunswick

The first Acadian to practise dentistry in the Maritimes
Graduated in 1910 from Baltimore Dental College

A past president of the Moncton Dental
Society and the New Brunswick
Dental Society

Recently received an honorary Ph.D. degree from Saint
Joseph's University and made a Fellow of the
American College of Dentists

He has three sons practising dentistry in New Brunswick

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An Appraisal of the Gold Foil Restoration[†]

by GERALD D. STIBBS, B.S., D.M.D.,* Seattle, Washington

"In the handicraft of their trade is their prayer."

WHEN occasionally we come in out of the rush and bustle of life, and just sit down quietly to *think*, it is indeed a "pause that refreshes." We all realize the tremendous benefits derived from such a mental exercise, but we permit ourselves that luxury all too infrequently.

Perhaps an attempt to provide a brief respite from the pressure of our crowded professional activities would not be amiss. For a short time, then, let us philosophize and moralize rather than frenziedly seek some new short-cut in technique, or some new easy cure for all dental ills. What more suitable topic could we select than that concerned with the ever constant yardstick by which all operative dental skill is measured—gold foil?

In entering upon an appraisal of the gold foil restoration in operative dentistry, perhaps it would be well, at the outset, to establish a justification for the discourse.

At first serious doubt may be felt that any value might be possible from such a consideration. When one reviews the literature of operative dentistry for the past fifty years, it is apparent that the great leaders in the field have thoroughly, painstakingly and brilliant-

ly taught by word, picture and clinic all the fundamental principles, as well as the mechanical refinements to produce the ultimate in restorative dentistry. Beyond the purely technical presentations there are also any number of eloquent pleas for an increased use of foil, and for a keener perception of the obligation of the profession to perform restorative procedures more conscientiously and more universally. It would be impossible to add to those masterpieces and no such attempt will be made.

Why then should anyone take it upon himself to elaborate further on the same subject, when the response to the masterly appeals through the years has been so feeble? It would seem that the reasons are at least three:

First, because the continued and increased use of foil in dental practice is so tremendously important to the future security of dentistry as a truly scientific profession;

Second, the demoralizing effect of human lassitude constantly dims the brief light cast by the spasmodic though brilliant efforts of the great operators to guide our blundering footsteps to higher planes of success. Hence repetition in one form or another is essential to maintain on the scales of dental practice the current

[†]Read at the ninetieth session of the American Dental Association, Section on Operative Dentistry, San Francisco, October 18, 1949.

Read as part of presentation before Vancouver and District Dental Society, Vancouver, B.C., December 5, 1950.

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degree of balance of that which would save us in spite of ourselves, namely, adequate use of gold foil;

Third, it seems that for fear of seeming unethical, there has been an unfortunate reticence in emphasizing the economic soundness of fine operative procedure for a just remuneration.

Briefly, then, this is offered with the hope that it may serve in a measure to revitalize the present group of fine operative dentists; and also that it may possibly stimulate and guide a few new recruits into the ranks of the stalwarts.

Our thoughts might be directed primarily in four channels, in considering the merits of gold foil:

First, would be its value to the patient for the high degree of perfection with which it can be made to save teeth;

Second, the mental and technical discipline which becomes an integral part of the accomplished foil operator;

Third, the honest increase in monetary return through routine use of the material where indicated; and

Fourth, the dependence of the profession for its existence, as such, upon the survival and increased use of the one sure cure for incipient dental caries known up to the present time.

In many ways these several phases are distinct entities, but at the same time they are inexorably intertwined. We will find that the thoughts relative to one will largely apply to the others. However, as much as possible, for the sake of clarity and analysis, they will be considered separately.

FOIL, THE RESTORATIVE MATERIAL "PAR EXCELLENCE"

Anything which could be said in connection with the merits of gold foil in the armamentarium of the operative dentist, would be but a repetition of the facts presented ever since gold was first used to fill cavities. Yet a few reminders may be helpful.

Each and every one of us believes without equivocation that of all materials we have at our disposal, even in what we blandly call "this enlightened

age," there is no other one which comes within nodding distance of gold foil. The degree and permanence of the seal obtainable between a cavity wall and well condensed gold foil cannot be equalled with any other material. More than this, condensed gold wears evenly with the adjacent enamel and the support of the enamel rods is ever constant. The use of foil in incipient areas of decay permits a greater conservation of tooth structure, when adhering to accepted principles of cavity preparation, than does any other of the permanent filling materials. It is unquestionably the most permanent restorative means we have. What other type of restoration can we find rendering excellent service thirty, forty, and even fifty years after it was inserted?

However, we know all of these things, and many, many more reasons for its use. The great trouble is that it is human nature to be interested in the things which are new, the baubles that glitter, and to forget the fine durable things which one is apt to take for granted in life. The inspired writings of the great leaders in operative dentistry are so easily relegated to the stacks of dusty, unused magazines and texts. Those men gave unstintingly of their knowledge, but they had other things to do besides write. They also saved teeth. On the other hand, we are deluged in our periodicals and at our meetings with a continual spiel about a multitude of new products, new materials, new cure-alls. Advancement is most necessary, but would we not be wise to "cleave to the tried and proven" and cautiously investigate the new, rather than be stampeded into wild enthusiasms for each new method of prevention, or each pretty new filling material? Do not mistake me. In time the ultimate in prevention may be available; in time some completely ideal filling material may be had. Let us, however, first permit the properly qualified research workers to complete their job, or let the manufacturers present proof positive of the merits of their wares. Let us not make guinea pigs of our patients and fools of our-

selves by jumping at every tempting morsel dangled before us.

There is no need to review at this time the technical procedures in the manipulation of foil. That phase of the work, too, has been thoroughly covered in the literature. However, it is suggested that it invariably proves a revelation and a stimulus to reread and re-study the fine papers on foil technique which have been published in the past fifty years. Always the material contained therein is refreshing, it is new, it is challenging. You will turn back to your daily work from these treatises with a deeper sense of security and earnest confidence that by using gold foil you are best serving the dental needs of your patients.

From a purely operative point of view, may I remind you that foil takes second place to nothing else in the incipient stages of decay or erosion. We realize that it is impractical to use foil in large cavities as was done formerly. That early super-enthusiasm did more perhaps to put foil in disrepute than any other single thing. Men naturally turned from the operation which killed off its exuberant advocates. However, in the small areas of decay, foil can be placed readily and permanently.

It is of particular value in the small pit and fissure cavities; in the gingival third cavities of the incisor, cuspid and bicuspid teeth; in the mesial and especially the distal surfaces of the incisors and cuspids when incisal angles are not involved; in the proximal surfaces of some posteriors, especially the upper and lower first bicuspid; and finally, but by no means least, in the Class 6 cavity or the cupped-out depression in the dentine where the enamel of a cuspid tip has worn through. Foil can be used more extensively, of course, but if we would use it consistently in these areas, or even in any *one* of these areas, dentistry would take a mighty step forward overnight.

A comprehensive evaluation of the relative merits of foil as compared with the other filling materials could be made here, but it seems superfluous.

Suffice it to remind ourselves that the deficiencies of the cast restoration are well known. In spite of the perfection of techniques, the definite weak link is the quality of the cementing medium. There are very definite indications for the cast restoration, of course, in spite of its shortcoming, but in the classification of cavities just listed, it cannot touch gold foil.

Amalgam correctly handled is a fine filling medium. The great difficulty is to so govern the personal equation of the operator that the material can be said to be used properly. To adequately control its variables actually requires more care than does the use of foil, once a sensible technique for the use of the latter is acquired.

With baked porcelain there is no quarrel. Those who can and do handle it properly are too few in number. Carefully used it fills a very definite need. However, even its strongest advocates would not say that one can obtain the same degree of marginal perfection with baked porcelain as is every day procedure with gold foil.

The silicate cements should not be mentioned in the same breath with foil. Yet, the vast use of the material justifies a word regarding it. As a permanent filling it is impossible; as a temporary expedient for aesthetics or economy it does have some indication. In the main, though, we are being dishonest with our patients and ourselves if we place it in the name of some kind of "porcelain". For temporary fillings there are other materials which do the work as well and with less of the silicate's characteristic dehydration of tooth structure which necessitates greater cutting for the cavity for the permanent restoration. In all sincerity and honesty the silicate cements should be used very sparingly, unless we are content to temporize with our patients' teeth.

The latest craze to flash across the dental firmament is the use of plastics, first in one form and then in another. The current products are admittedly experimental. They have

not been proved to be adequate; they do not measure up to the requirements of the permanent filling material. Perhaps some day something really worthwhile will come out of these first developments. At present it seems lamentable to see the profession and their patients being taken on such a toboggan ride. The slide is steep and the course unknown, yet many guilelessly offer their services as a proving ground with little heed for the welfare of their patients or the preservation of respect for the profession. Let us be a little more cautious before we gulp down everything that is offered us. Up to the present, gold foil most nearly satisfies the requirements of the ideal filling material. We will be wise to continue to utilize it as the measuring stick in evaluating other materials.

FOIL AS AN AGENT FOR DISCIPLINE

Let us turn now briefly to think of the intrinsic advantages that accrue to the man who uses gold foil.

The great majority of dentists were exposed to varying concentrations of instruction in foil during college years. After graduation the majority have turned from the use of the material. Why?

There is, of course, the definite percentage of pupils whose minds seem to be immunized against acceptance of the best concepts of any subject; they are the misfits in our profession. However, it would seem that the discontinuance of the use of foil has been largely the fault of the teachers. Where there has been such fault, it has been for one or more of several reasons. Perhaps they were not sufficiently adept themselves to have easy self-assurance while teaching foil techniques; perhaps they in turn had received inadequate training, and the techniques they taught were too laborious and time consuming; perhaps some were not sufficiently idealistic to make the effort to fire their pupils with the desire to perform the finest possible service for their patients; perhaps on the other hand they were so

intensely prejudiced against anything else but foil, that their very intolerance established a barrier in the minds of their students. Whatever the reason, at least they were successful in sending too many of the new graduates out into the world mentally conditioned in such a way as to be easy prey for the smooth promoter of the easy dollar and the shortcut technique. It is unfortunate, for dentistry thereby has lost and is losing each day the service of many thousands of competent men, who with a little guidance and stimulus could utilize foil and really save teeth.

It is interesting to study the characteristics of foil men. They seem among the finest examples of those described in the selection from the *Apocrypha*, which was quoted at the beginning of this paper—"In the handicraft of their trade is their prayer". They are typical idealists; they know the material which they can handle is supreme; yet they are not content to use it themselves and be satisfied. Some at least continue through the years to spread the message of the finest in restorative dentistry. Always they exhibit the radiant optimism that their message will reach the ears of those who are so earnestly interested in performing the best service for their patients that they will make the effort to learn an exacting technique; those who wish to experience the justifiable pride in one's own best handiwork.

Besides being idealistic, users of gold foil are patient workers. They will work in small groups or study clubs for long years. They diligently practise their art and submit the results for critical analysis by their fellows. By so doing, they train their hands and eyes to do fine things. More important, perhaps, they train their minds to be able to accept criticism and benefit from it; they become more practical and more idealistic, and practical ideals are one of the greatest needs in all corners of our troubled world today.

Beyond these advantages the foil operator has received one truly great reward from his "Aladdin's Lamp." He has been forced to acquire an adequate technique for the application of the rubber dam, and by virtue of that one thing alone, he has become cognizant of the pleasure of working in a saliva-free field; he has become alert to the advantages of the use of the dam to such an extent that he uses it for all operative procedures; and he is rightly proud of the fact that through that one measure in operative technique he can with confidence "place restorations in properly prepared cavities", rather than "plug holes in teeth". If foil did nothing more than stimulate the use of the rubber dam, all the papers and clinics on foil which have ever been presented would have been well worthwhile.

However, it does even more. The placing of a beautiful foil restoration brings greater joy and pleasure to the operator than does any other procedure in dentistry. What can be more stimulating than to complete such a restoration where it is indicated? There is a tooth which a short time before was on the road to the exodontist's door. Now its diseased portion is removed; its original contour and function is restored with a material which has sealed the break in continuity of structure more positively and permanently than can any other material known to man; and if it is placed where and as indicated, it is relatively inconspicuous, and completely harmonious with the tooth from the aesthetic point of view. What indeed can be finer! The inspirations to the operator from the consistent use of foil could be listed on and on, but these few should serve as a stimulus to open our eyes to the possibilities.

Yet in the midst of the fanfare, let there be one word of caution to those who do use the material. You are "on the gold standard" it is true; but be ever alert to avoid any tendency to feel or exhibit a "holier than thou"

attitude. Foil is the ultimate in restorative dentistry, it is granted, but that is no reason to permit oneself indulgence in arrogance, rudeness, intolerance, or bigotry. Remember that there is much to be gained from an open-minded study of the other branches of dentistry; there are sound data in the fields of prevention, and nutrition, and dental medicine which, when properly employed, can improve the service rendered by restorative dentistry. Keep in mind that the truly great man is humble, no matter what his field of endeavour may be. He is confident, yes, but not conceited. With so much to know and to learn there is no room or time for haughty, bloated self-esteem.

FOIL, AN ECONOMIC BOON

Mention has been made of the rewards which come to those skilled in the use of gold foil. Some of the more intangible gains have been briefly covered. However, the word "reward" seems naturally to call to mind a material gain. Is there a financial reward through the use of foil?

It may seem improper to discuss remuneration in the same breath with ideals, yet the current trend of men's thought is toward worldly goods. Has foil anything to offer? It has indeed, and it bears mention.

Many surveys of fee schedules prevalent in dental practice have shown that in general the fees for operative dentistry are so abnormally low compared with those for other services in the profession that restorative dentistry becomes almost a subject of ridicule. Proportionately for the time and effort expended, the product of the operative dentist in general has brought the least return. What will remedy the situation?

The testimony of men who have put in some effort to acquire dexterity, speed and judgment in any phase of operative dentistry, sounds almost like the playing of a cracked record. In respect to the study of gold foil particularly, the operators invariably

find that as they acquire skill they develop self-confidence. When by study, they realize the merits of the procedure they are practising they feel no compunction about receiving an adequate fee for that service. When they appreciate the incalculable degree to which they can stop caries by properly eradicating the lesion and permanently immunizing that surface of the tooth against further decay, they have no hesitation in demanding a just fee. Their material wellbeing will be honestly enhanced beyond measure, for the acquisition of an adequate foil technique will pay off better, dollar for dollar, for the time and effort put in it, than will any other study in the practice of dentistry.

Considered on a strictly time-service basis foil, where indicated, is unquestionably the most economically sound restorative material. In one appointment, with one anaesthetic, with one rubber dam, and with less waste of time in extraneous talk by the patient, a sterile permanent filling can be placed in an aseptic field, with a positive joint between cavo-surface margin and restorative material, the margin of which can be properly finished with a clear view and without damage to the periodontal tissues from instrumentation. With what other material can operative dentistry as well meet the demands for a permanent tooth saving medium which, when properly manipulated, reduces operative time to the minimum and is, therefore, of top rank when considering financial return? Not one.

THE RELATIONSHIP OF FOIL TO THE PROFESSION

Finally we come to a consideration of the value of the use of foil to dentistry as a profession.

There is a definite crisis facing the profession today. Of course, it is usual for people of each day and age to feel that their generation is so important in the scheme of things that they must be living in the midst of earth shaking events, and to feel that the control of

destiny is in their hands. The curbing effect of humility is earnestly to be sought after.

In a sense though, we are at or are nearing a crossroads in the history of dentistry. On the one hand there is the splendid record of a young profession "winning its place in the sun." In a comparatively few years dentistry has left the ranks of a mechanical, empirical trade. It has elevated itself to the position of a respected profession whose members strive to institute the most conservative measures possible to protect teeth, and to safeguard and enhance the health of the people.

This has been achieved, first by dint of much effort and labour and application of sound principles by those who practised dentistry, and second, as a result of the scientific contributions made by the somewhat retiring, sincere research workers within our ranks. There have been lapses, of course, and there have been a certain few always who through their unprofessional attitude have hampered progress. However, the general curve has always been upward. There has been steady progress in improving materials, and there have been advances in determining the aetiology, and from that the prevention of the two great enemies of oral health—caries and periodontal disease.

Now, however, there is a change apparent. In all of human endeavour at present there is evident an altered sense of values. It is no longer commonplace to find people who like to work for the sheer pleasure of accomplishing a task. The former loyalties toward fellow man and country are not as frequently in evidence in recent years. There is a general distrust of everything and everyone. Selfishness is rampant. Indeed, the too common individual, national, and international creed has become, as one of the leaders of the legal profession expressed it, "Me, now!" What an indictment!

How is that philosophy finding expression within the ranks of dentistry?

It is manifest everywhere. Many show no desire to *earn* their fees. It is hard work by current standards to perform restorative dentistry properly. It is easier to daub first one thing and then another on the teeth than it is to apply a rubber dam and place a small gold foil. It is easier to sit at the feet of the true scientists and bask in the glory of their works, unfinished though they may be, than it is to engage in study club activity and really learn how to prepare a cavity worthy of the name by actually doing it over and over again under critical supervision. It is easier to talk prevention and then later permit a technician to construct an expensive prosthetic appliance than it is to save pulps and save teeth by minutely examining the teeth, and by halting rampant destruction through the placing of permanent restorations, be they of gold foil, gold inlay, baked porcelain or amalgam, as early as possible. It is easier, far easier!

One of the most dangerous signs of the times is that even some of the State Dental Boards are questioning the advisability of retaining a foil restoration as a part of their practical examinations. It is to be hoped that these guardians of the standards of the profession will not fall prey to the current trend. Let them stand fast. Let them still use the surest gauge by which to determine a candidate's understanding and ability to execute the fundamental principles of operative dentistry. Restorative dentistry will be required for a long time to come, even if the quest of the preventionists should be successful tomorrow.

Such are the general problems. What confronts operative dentistry specifically? Basically it is the abnormal emphasis currently placed on prevention as though it were a new idea; also the inadequate publicizing of the merits of fine operative procedures; and finally, insufficient thought to the acquisition of enough new operators to expand the sphere of

service of restorative dentistry.

Research and studies for prevention are essential. However, it should be left to the properly trained research personnel to conduct these studies quietly until some definite information is available; they should not be needled into publishing encouraging prospects before the ideas have been adequately tested.

In the meantime, the foil operators know from their years of experience that foil properly placed adequately immunizes that area of a tooth from further caries, but what are they doing about it? They remain mute before the garrulous pseudo-scientists. Operative dentists are delinquent in discharging their obligations to their profession. They owe it to dentistry to continue to report the success of proper restorative measures. New techniques are not needed nearly as much as is a more accurate utilization of those already available.

So it is necessary that operative dentists take their rightful position. They must defend themselves against the ridicule of those who consider it almost undignified for a professional man to use his hands. They must be proud of the fact that they can and do save teeth; that they do *cure* caries by properly eradicating the early lesion and restoring the tooth to its original form and function with gold foil wherever that is practical.

It would seem that the greatest single need of those who use foil, is to overcome an air of aloofness. If the finest procedure in dentistry is to survive and grow, new operators must be trained and inspired. How can that be done? First, of course, by revitalizing the teaching of gold foil in the schools. Second, by opening our doors to those in the profession who are seeking the opportunity to learn this challenging, lucrative, highly serviceable procedure.

A great many of the foil operators see the black danger ahead. If we do not grant entry to those serious practical students whose enthusiasm

can carry the good work along to greater heights, they will be forced to divert their energies to other fields and the vitality of restorative dentistry will gradually fade and die. We owe too much to our profession to permit such a thing to happen.

In one of his many fine contributions to operative literature, Prime¹ exhorted the profession not to let its glorious banners drag. As one of the proposals to uplift and further the service which the dental profession could offer, he urged the formation of more gold foil study clubs, even a national organization. Since his plea in 1931, a few more study clubs have been formed, but not enough.

Men have asked repeatedly for guidance in this phase of dentistry, yet so often they have been put off. Why? Are the leaders not aware of their responsibility? Do they not see the urgency of inculcating the concepts of truly fine dentistry in the minds of these new recruits? Shall we fall into the quagmire which has extinguished the spirit of other groups? Shall we bicker over petty details of technique and not see the tremendous need for a united front? No! Corrective measures must be taken!

Concretely, there must be aroused a renewed interest in proper operative procedures. To do so, it must be re-emphasized that to date there is but one sure way to cure caries, and that is by substituting the carious surface with a metallic surface which is immune to caries. Of all the restorative materials, which one has proved the most reliable from the standpoint of permanence, perfection of margins, freedom from recurrence of the carious process? There is only one answer—the yardstick by which all other materials available to operative dentistry is measured, namely, gold foil.

Very well then, pending the discovery by the true research workers

of the real aetiology of caries, and a very positive and wellproven method of prevention and of cure, the profession must be reawakened to its duties. It would be well to remind ourselves that many of us have placed the cart before the horse. The public is not here to be exploited out of its money to pay for first one and then another highly touted preparation to prevent decay; nor is it right to mishandle that public to the extent of ruthlessly extracting teeth to make way for some flashy pieces of dental jewelry. Rather, we as a profession owe it to our profession and to ourselves to be keenly aware of the fact that we are servants of the public; not fawning slaves, and not penurious dollar seekers either. Let us forsake the concept of getting the most money with the least effort. Let us restore public health service to its proper place, and let us proudly go forth and practise operative dentistry sanely, conservatively, judiciously; and as the keystone of that renewed effort may we place at the top of our armamentarium the ability to efficiently utilize the peer of all restorative materials—gold foil!

SUMMARY

Further discourse on a subject thoroughly covered in the literature is justified to keep before the profession the sterling merits of its oldest filling material.

With the advent of materials and procedures whose values have not been proved, it is imperative that cautious good judgment be applied in their evaluation. Ability to use gold foil with care helps to develop a sound basis for comparative analysis of the panaceas; it is a buffer, a steadying influence.

It is of great value to the profession not only as the best of the permanent restorative materials, but also as an instrument which develops the hand and eye and mind of the one skilled in its use. Foil still remains the gauge whereby the public, as well as licens-

¹Prime, J.M., *Gold Foil*, J.A.D.A., 18:1477-1484, (Aug.) 1931.

ing boards can evaluate a dentist's technical dexterity.

This material, when manipulated by refined techniques, and when its prime indications are observed, provides one of the most honestly remunerative practices in dentistry.

Those who possess the ability to use foil should not only continue its use, but must also remember that it is a part of their obligation to the profession to help promulgate that knowledge to the best of their ability to the eager newcomers in dentistry. Foil work should be taught with a careful avoidance of any self-glorification by the instructor; it should be presented in its true perspective as the one truly scientific method of arresting caries which is available today. It would be suicidal to the profession as a health service if the use of this fine procedure

became limited to any group whose numbers were static.

Dentistry seriously needs more and better operative dentists.

Those who have not as yet acquired a ready facility in the use of this yardstick of restorative dentistry are urged to seek out the qualified teachers, with the assurance that the result will be a greater joy from rendering the ultimate in service, a more positively satisfied clientele, and a more adequate monetary provision for self and family.

Gold foil is a mighty weapon in the fight against dental decay. It must be used with conviction and wisdom.

Gold foil is the perfect taskmaster. It serves peerlessly, yet simultaneously teaches, encourages, chastens and inspires its disciples.

Résumé

Il est bon parfois de revoir un domaine dont la littérature a couvert tous les aspects, quand bien même ce ne serait que pour rappeler à la profession les mérites sans équivoque de la plus vieille substance à obturation.

La mise de l'avant de nouveaux matériaux et de techniques récentes (dont la preuve est d'ailleurs encore à faire) nous porte à être circonspects et à faire preuve de jugement pour en évaluer les mérites. L'utilisation de l'or malléable à bon escient et d'une façon correcte nous fournit une assise solide pour juger de la valeur des panacées; cette substance obturatrice nous est un point de repère et nous aide à jauger les autres.

L'or adhésif a bien rendu service à la profession en tant que matériel permanent pour les obturations; il a en outre amélioré le jugement, l'oeil et le doigté de ses adeptes. L'or malléable demeure le barème qui permet au public et aux examinateurs de juger de la dextérité d'un dentiste.

Cette substance, bien employée et manipulée correctement, donne à celui qui l'emploie une honnête rémunération, l'une des plus intéressantes de la dentisterie.

Ceux qui savent manipuler l'or adhésif doivent non seulement continuer à s'en servir mais aussi doivent se rappeler qu'ils ont un devoir envers la profession: celui de répandre leurs connaissances au sein des nouveaux venus, qui veulent apprendre. Les techniques de l'or adhésif doivent être enseignés sans orgueil de la part du professeur; elles doivent être présentées sous leur vrai jour, à savoir que l'emploi de l'or adhésif représente encore aujourd'hui la seule façon réellement scientifique de combattre la carie dentaire. La profession faillirait à sa fonction dans le domaine de la santé publique en laissant à quelques petits groupes de praticiens isolés l'apanage de cette technique raffiné.

La dentisterie a sérieusement besoin de dentistes, tant en quantité qu'en qualité.

Les dentistes qui ne sont pas familiers avec la manipulation du meilleur atout de la dentisterie opératoire, devraient se grouper autour de maîtres qualifiés; ils peuvent être assurés d'un grand plaisir à réaliser des obturations les plus parfaites qui soient, d'une clientèle réellement plus satisfaite et de revenus plus équitables pour leur famille et eux-mêmes.

L'or adhésif est une arme précieuse contre la carie dentaire; on doit s'en servir avec sagesse et conviction.

L'or adhésif est un ouvrier parfait; il est sans cesse sur la brèche, et en même temps il sert de leçon, il stimule, il épure et enthousiasme ses adhérents.

Successful Bleaching Without Secondary Discolouration

by H. H. PEARSON, D.D.S., Montreal, Quebec

DURING the past several years, various techniques have been employed for the bleaching of teeth that have become discoloured as a result of the decomposition of all or part of the pulp. Some of these techniques have proven to be successful in eliminating the staining chemicals but a secondary discolouration takes place to mark the original correction. This secondary discolouration can be prevented.

An investigation of the writer's own cases and the polling of many dentists here and elsewhere, has divulged to us that all have experienced the same reactions. That is, a secondary discolouration does take place from three months to one year after the bleaching treatment, that the new colour is most intense in the gingival third of the crown, and that this new colour is invariably a bluish gray irrespective of whether the primary discolouration was purple, red, brown, green, orange, deep yellow, or a combination of any of these.

Since the staining chemicals are removed and all the cavities are refilled, what brings on the secondary change in colour?

We began our investigations accepting the following premises:

a. The staining chemicals enter the dentine by way of the orifices of the tubuli which line the walls of the pulp chamber, canals, and cavities.

b. The gelatinous substances in these dentinal tubuli take on and hold these chemicals.

c. That the most used bleaching agent¹ is a preparation of ether and oxygen. In examining the printed directions that come with this preparation, we found several discrepancies in concept and technique.

By way of illustration, we re-eat here a brief summary of the technique prescribed. After voiding the crown of all filling materials, that may be in the cavities and pulp chamber of a

successfully treated and filled pulpless tooth, the dentinal walls are treated with the bleaching agent. This is applied to the absorbent cotton that was packed into the cavities and over the lingual and labial surfaces of the crown. The ether dissolves the gelatinous substance in the tubuli and the oxygen bleaches out the staining chemicals. The entire process is activated by the application of the actinic rays which emanate from a photo flood light set about 20 inches from the tooth. After all the colour has been removed, the opened tubuli are supposedly closed by treating the cavities with a concentrated solution of chloral hydrate. The object is to fill the tubuli with crystals that will restore, to the tooth, its translucency. The pulp chamber and cavities are then lined with a transparent varnish and filled with a synthetic porcelain.

These are the discrepancies we found in the above technique:—

a. A concentrated solution of chloral hydrate is a very viscous fluid. It will seal the orifices of the voided tubuli in the walls of the dentine but will not fill the tubuli.

b. The ether oxygen solution that was applied to the enamel, dissolved and bleached the contents of the lamellae that are present. According to Gottlieb², these can and do extend through the enamel into the dentine. They connect up with the dentinal tubuli. These microscopic openings are left unsealed to be acted on by the oral fluids.

Realizing the existence of these discrepancies, the writer conceived the following procedure:

THE IMPROVED BLEACHING TECHNIQUE

After the tooth has been bleached by the application of the ether oxygen bleaching agent to the exposed internal and external surfaces of the tooth, the following chloral hydrate solution is applied:

Chloral Hydrate 80%
Aqua dist.
Aerosol 10%

The aerosol is a wetting agent used to break down the surface tension of the concentrated, syrupy, viscous, chloral hydrate. This is applied to the dentinal walls on absorbent cotton and pumped into the tubuli by means of a piece of unvulcanized rubber and an orange wood stick. Or, the cavity walls may first be moistened with the aerosol and the concentrated solution of chloral hydrate pumped in as described above. The cavities are then dried, varnished, and filled. We now have not only sealed but filled the dentinal tubuli from the interior of the tooth.

The voided microscopic openings in the enamel and exposed cementum are now filled and sealed. Since chloral hydrate is very soluble, it cannot be used for the sealing of the external openings. For this purpose, we used Gottlieb's³ impregnation formula with one change. The benzene treatment was omitted since the ether used was quite adequate to cleanse and void these microscopic openings. In this manner, all intra and extra-dental microscopic openings have been sealed after filling the dentinal tubuli and enamel lamellae, thus closing all entrances to the exposed tooth tissues.

The writer believes that the tissues of a tooth are permeable and that in bleaching these tissues become more permeable by chemical action.

Recent experiments reported on by Drs. W. W. Wainwright and F. A. Lemoine⁴ bear out the above beliefs. In this article, they record the results of the application of Radioactive Isotope Carbon 14 labeled Urea, on freshly extracted teeth. These teeth were then sectioned at various levels and autograph photographs were made. The photos of the crown sections showed penetration of the isotope through the enamel into the dentine and in a like manner, the photos of the root sections showed that the isotope penetrated through the cementum into the dentine.

Another experiment⁵, though not reported in the above article, was even more dramatic in results. Some calcium chloride was made radioactive and .1 cc was painted on only the enamel of a freshly extracted upper lateral incisor. This tooth had caries almost involving the pulp though not opening directly into the pulp chamber.

This tooth was then washed in running water for a period of two hours. It was sectioned longitudinally and autograph photographs were made. These photographs showed that the isotope had travelled through the enamel, the cementum, the caries into the dentine, and was found on the walls of the pulp chamber.

SUMMARY

1. Secondary discolouration is the result of permeability of enamel and cementum to the oral fluids.
2. This permeability was increased by the ether in the bleaching agent.
3. Secondary discolouration may be prevented by filling and sealing the dentinal tubuli and the enamel lamellae.
4. After bleaching, a modified chloral hydrate is applied to the exposed dentine and Gottlieb's impregnation formula is applied to the enamel and exposed cementum.

CONCLUSIONS

Enamel, cementum, and dentine are permeable. Teeth that have become discoloured as a result of the decomposition of organic materials may be successfully bleached back to their normal shades and hues without anticipating any secondary discolouration if the external as well as the internal microscopic openings are filled and hermetically sealed.

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Fibrous Dysplasia Of Bone: Report Of Case (No. III)

by W. A. CRICH, D.D.S., Grimsby Beach, Ontario

FIBROUS dysplasia of bone is a term given to a condition affecting one, several or many bones, the graver cases of which may present abnormal pigmentation of skin, premature sexual development, hyperthyroidism, or still other skeletal abnormalities.

In the June issue of the Archives of Pathology for 1942 is to be found a very comprehensive article on this disorder by Lichtenstein and Jaffe. At that time they had had the opportunity of thoroughly studying twenty-three cases. They also reviewed the literature on this subject. The following is an excerpt from their summary. "As to the skeletal aspect of the condition, emphasis was laid on the fact that when more than one bone is affected, the bones involved are likely to be solely or mainly on one side of the body. In an affected bone, the area implicated may be found expanded in part or throughout. Where it is not expanded, the regional cortex is likely to show at least erosion and thinning from the medullary side. The interior of the involved area is found to be filled mainly by an evenly whitish or reddish speckled rubbery and compressible tissue. Fundamentally this is fibrous connective tissue. It may be gritty throughout from the presence everywhere in it of newly formed trabeculae of immature bone. Or, instead, it may show some smaller or larger, non-gritty, highly collagenous areas in which few if any bone trabeculae are to be seen. In some lesions islands of hyaline cartilage may also be present within the fibrous connective tissue. Furthermore, in an occasional lesion, focal degeneration of this tissue may have led to the formation of small secondary cysts."

As to the extra-skeletal aspects of this condition Lichtenstein and Jaffe¹ pointed out that abnormal pigmentation of the skin and (in females) pre-

mature sexual development are the two most common. Reference was also made to the presence, in a few instances, of hyperthyroidism, ephemeral premature skeletal growth and maturation, and even a history of very grave icterus in early infancy.

Lichtenstein and Jaffe¹ are convinced that this disease has its basis in a defect in which the central clinical picture, represented by the skeletal lesions is amplified by the various extra-skeletal abnormalities. They believe that the skeletal lesions in particular result from perverted activity of the specific bone-forming mesenchyme. They also pointed out that no case of fibrous dysplasia of bone had come to their attention in which any of the lesions had undergone malignant transformation, irrespective of the extent of the skeletal involvement.

TREATMENT

Lichtenstein and Jaffe¹ state that treatment procedure should be governed not by the size and number of the lesions but by their troublesomeness or their failure to cause trouble. Thus a solitary lesion uncovered only incidentally in the course of a routine physical examination can in many instances safely be left entirely alone after the diagnosis has been established, perhaps with the aid of a biopsy. In a case of polyostatic involvement, it is again only such lesions as are causing difficulty that really require attention. In a case in which only one bone is affected and the lesion in it is small, thorough curettage of the latter and filling of the cavity with autogenous bone chips may reasonably be expected to eradicate the disease. On the other hand, when the solitary lesion is in a rib, for instance, it may be wiser to resect than to curette it. If it is still only one bone that is involved but the lesion is large and the area affected is one subjected to heavy

loading (notably the upper end of a femoral shaft), the insertion of a massive autogenous bone graft is advisable. In fact such a graft may have to be used subsequently in a case in which curettement and autogenous bone chips were used at first but in which the chips were resorbed and the lesion recurred.

PROGNOSIS

Lichtenstein and Jaffe¹ pointed out that patients presenting only limited or moderate expressions of the disorder seem to have a normal life expectancy, and those in whom only one bone is affected certainly do. Furthermore, so far as the skeletal manifestations of the disease are concerned, lesions which were present before the end of the period of active growth often seem to slow down spontaneously in their activity and even become arrested. Patients should be cautioned to be careful in the use of the affected part.

REPORT OF CASE—LOCALIZED FIBROUS DYSPLASIA OF BONE

On September 12, 1947, Mrs. T. aged 59 years, was referred to me for treatment of a radiolucent area of bone in the lower left cuspid area of her mandible. (Fig. I.) This condition had been found in the course of an x-ray examination by her family dentist.

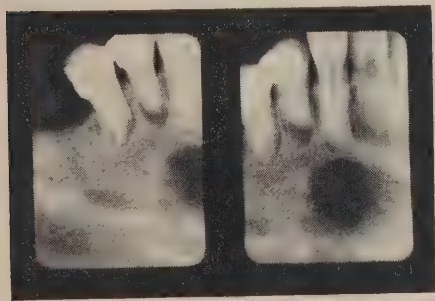


Fig. 1 Roentgenogram taken September 12, 1947.

Previous History.—On July 29, 1933, this patient had been operated elsewhere for a very large cyst which extended from the mesial of the lower

left first molar across the symphysis to the lower right lateral incisor. (Fig. II., Fig. III.) The pathological diagnosis was osteo-fibroma. The cavity was packed with iodoform gauze and kept under observation for four months and when last seen appeared to be filling in normally with new bone. Mrs. T. had experienced no further discomfort since that time.

Treatment.—On September 12, 1947, under conductive anaesthesia the lower left cuspid, first and second bicuspid teeth were removed. The muco-periosteum was reflected on the labial surface and a window made into the cavity. The cavity measured 1 cm. in width and depth and was filled with a whitish coloured rubbery type of tissue. The cavity was cleaned out carefully and the muco-periosteum replaced with catgut sutures. Upon receiving the pathological diagnosis of giant cell tumour, I felt that I had not been radical enough in my treatment and decided to keep this patient under observation. Dental roentgenograms taken periodically revealed that the cavity was not filling in normally. X-ray films (Fig. IV.) made on February 7, 1949, showed the area to be definitely larger and measured approximately 2 cms. in width. At this time, under block anaesthesia a wide muco-periosteal flap was again reflected on the labial surface and a large opening made into the cavity. (Fig. V.) The contents of the cavity were similar in character to that found at the previous operation. The cavity was curetted thoroughly. The walls of the cavity were then rubbed vigorously with a pledget of gauze soaked with phenol and followed by an application of alcohol. The flap was replaced and the cavity packed with gauze lubricated with bismuth and iodoform paste. The pathological diagnosis on this occasion was fibrous dysplasia of bone. When I called the pathologist's attention to the diagnosis of the initial lesion, he felt that it too should have been diagnosed as a fibrous dysplasia. Mrs. T. was seen

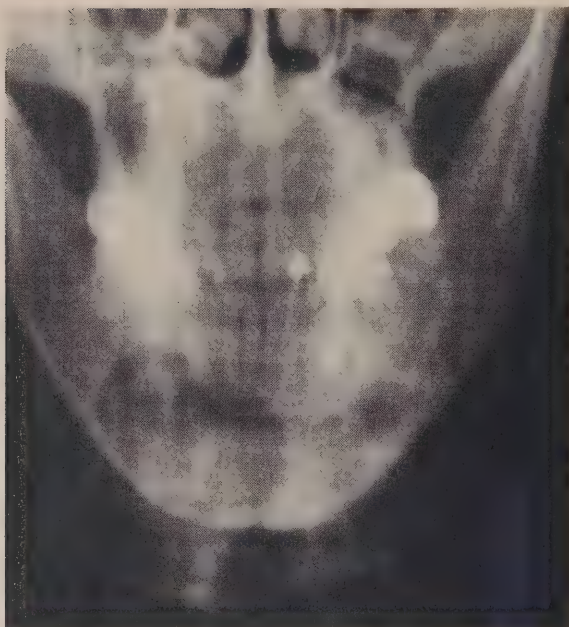


Fig. 2 Roentgenogram diagnosed as osteo-fibroma, 1933.

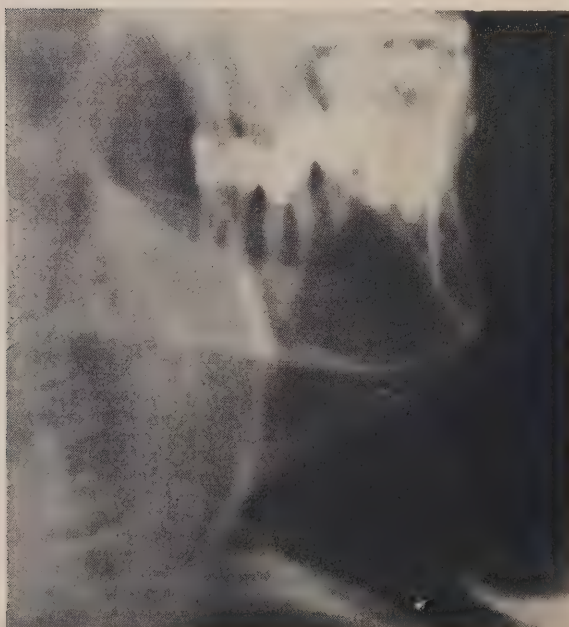


Fig. 3. Roentgenogram diagnosed as osteo-fibroma, 1933.

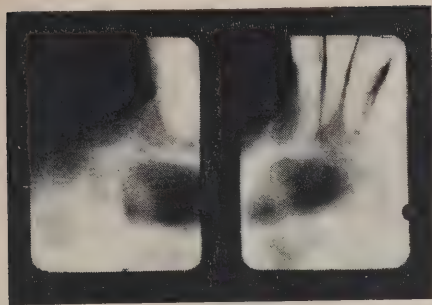


Fig. 4. Roentgenogram taken February 7, 1949.

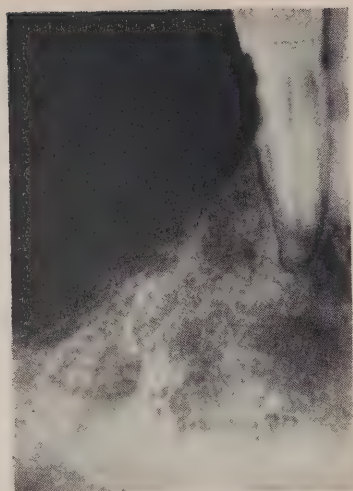


Fig. 6. Postoperative film taken March 9, 1950.

frequently and the last of the dressing was removed on May 30, 1949. The gingival tissues have healed completely and a dental radiogram (Fig. VI.) taken on March 9, 1950, showed no sign of any cavity in the bone.



Fig. 5. Photograph showing muco-periosteum reflected and window made into cavity.

COMMENTS

1. This patient has not had other bones of the body radiographed for additional osseous lesions. In cases of fibrous dysplasia a further search is indicated.

2. Here is reported a case of localized fibrous dysplasia of bone, treated by complete enucleation, after which the walls of the cavity were cauterized with phenol and neutralized with alcohol.

3. A lesion of monostatic fibrous dysplasia may be mistaken roentgenographically for a bone cyst or even giant-cell tumour. In order to make a definite diagnosis, a biopsy is necessary.

4. Localized fibrous dysplasia has no doubt a high tendency to recurrence. This case should therefore be kept under observation indefinitely.

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1. Lichtenstein, L. and Jaffe, H. L., Fibrous Dysplasia of Bone. *Arch. Path.* 33: 777 (June) 1942.

An Evaluation of The Topical Application of Sodium Fluoride

by A. BRUCE HORD, D.D.S., B.Sc. (Dent.), Toronto, Ontario

AT the present time the subject of the use of sodium fluoride in the control of dental caries is undergoing considerable controversy. On one hand many dental practitioners feel that the periodic topical application of a 2 per cent aqueous solution of sodium fluoride will most assuredly prevent caries, particularly during the comparatively short period the deciduous dentition is present in the oral cavity. On the other hand there are other practitioners, whether because of difficulty in handling the drug, or because of subsequent caries formation have abandoned the use of it entirely.

A short while ago an investigation was carried out at the Faculty of Dentistry in conjunction with facilities made available at the Ontario Research Foundation, Department of Food Chemistry, and the Banting Institute. An endeavour was made to determine just how effective sodium fluoride was in the control of dental caries.

The procedure briefly was as follows. Several dogs were anaesthetized with intravenous sodium pentothal. The posterior teeth of one side of the mouth were cleansed and painted with a 2 per cent aqueous solution of sodium fluoride which was allowed to dry on the teeth. The other side of the mouth was left untreated to serve as a control. This procedure was repeated once a week for eight weeks. At the end of this period the teeth were extracted and placed in 10 per cent formalin. Half of these treated and untreated teeth were tested for enamel microhardness, using the Tukon Microhardness Tester, while the other half were analyzed for the presence of the fluoride element.

When sodium fluoride is applied to the enamel surface of a tooth a complete chemical exchange occurs. Sim-

ply it consists of the conversion of hydroxyapatite to fluorapatite. The fluorapatite radical imparts both hardness and solubility resistance in acids to the enamel of teeth. Analysis of the results obtained from the investigation indicated an increase in surface microhardness of 13 per cent, while the fluoride content increased 2.78 times.

SUMMARY

Certain very important factors should be borne in mind when sodium fluoride is used as a topical applicant.

- (1) All moisture should be prevented from contacting the tooth during the drying period.
- (2) All fissures, grooves, and pits should be cleared of debris if at all possible. Plaques should be removed from the smooth surface areas of the teeth.
- (3) The possibility of adequately bathing the contact points in the solution is questionable.

This investigation seems to indicate that the topical application of sodium fluoride does to some degree chemically alter the enamel so that it is more resistant to acid attack. However, if care is not taken to properly remove debris which might prevent contact of the solution with enamel surfaces, disheartening results are sure to follow. Individual factors such as occlusion, susceptibility to rampant decay, restorations, oral hygiene, diet, and many others should be considered before a proper evaluation of the effect of the drug is attempted.

Clinically cases have been reported where a remarkable resistance to decay has followed after three or four applications of the drug have been made. Other cases have been reported which have met with complete failure. It is hoped that after reading this article you will be better able to judge the

cases where the drug may be used effectively, so that failures which might result will not compel you to condemn a technique which has its place in every dental office.

This eight week period was selected

to coincide with a second study where time was involved. It was a random selection and in no way was it felt to influence the results of this investigation.

230 College Street

Interim report on a controlled experiment on pre-school children with an ammoniated dentifrice

by JAMES A. GALE,* L.D.S., D.P.A., Glasgow, Scotland

REPORTS have been reaching this country from the United States that research workers in America had achieved remarkable results in the prevention or reduction of dental caries by the use of an ammoniated dentifrice, and a two-year investigation into these claims was instituted on behalf of the Public Health and Welfare Department of Glasgow in September, 1949.

As Chief Dental Officer of a City with a school population of nearly 180,000, I felt that a special benefit might accrue if the incidence of caries could be retarded in the pre-school life of the child. Too often we find that by the time a child reaches school age, the initial damage is done, and the temporary molars are beyond repair. As I cannot over-emphasize the importance of removing oral sepsis from the young child, irrespective of later potential irregularities, I consider that any reduction in dental disease in these pre-school years would cause an important lessening of the orthodontic problems so often encountered later, problems which we must all admit would be better prevented than cured.

The following is an interim report after one year's use of an ammoniated dentifrice.

Subjects selected. The subjects selected for this test were children in nursery schools, for several reasons, including the following:

- (a) Test was commenced with children all under 3 years of age, as this group would, to my mind, gain the greatest benefit, and would be under control for the necessary two years.
- (b) The children belong roughly to the same social and economic strata.
- (c) The alternative, where a controlled experiment is to operate would be to use inmates of an institution or a convalescent home, and would necessitate the use of ailing, instead of normally healthy children.
- (d) These schools are closed for only a fortnight in the summer time, not for eight weeks.
- (e) The routine in these schools is carefully regulated and the teeth are brushed on each occasion for five minutes under strict supervision.

9 a.m.—Arrival at school—orange juice—brush teeth.

12 noon—Lunch—brush teeth.

4 p.m.—Milk, bread and butter, etc.
—Children leave for home.

Sixty children from six schools were selected, three of the schools (30 children) being supplied with an ammoniated toothpowder, the other three schools (30 children) being kept as controls and being allowed to use any dentifrice of their choice.

Inspection and examination. Inspection takes place at half-yearly intervals, a most careful charting being carried out. In addition to the clinical examination for caries, samples of saliva are examined in the bacteriological lab-

*Chief Dental Officer, Corporation of Glasgow: Lecturer in "Children's Dentistry", Dental School, University of Glasgow: Visiting Surgeon, Dental School, University of Glasgow.

oratory by plate count, by the Lewis Counting Method and Snyder Tube Method.

Method of Inspection.

(a) In the forenoon careful mirror and probe examination and charting are carried out. The children are given a pellet of sterile paraffin wax (supplied by the bacteriological laboratory) to chew, and they then spit into sterilized glass containers (also supplied by the laboratory, and containing sterilized glass beads).

(b) These containers are handed into the laboratory at lunch time, so that tests can be commenced at once.

(c) The results (Lewis Count, Snyder Tube colour change and interpretation) are then sent to me by the bacteriologist, who has no idea of the clinical findings until the results are collated by me.

ever, in including these children, to avoid any suspicion of statistical manoeuvring.

The figures are, however, even more significant when we assess them as a percentage increase in carious cavities. In the original inspection these indicated a much higher incidence of caries in the test group, and the percentage increase is worth noting.

An interesting feature of the investigation was the agreement between the bacteriological and clinical findings. For example, the child with a plate count of 274,500 has 8 carious and 2 very carious teeth, while the child with no growth is usually found to have a sound dentition or very slight caries.

I shall watch with interest the development of this investigation during the next twelve months, and hope to be able to publish a final report at a

Results	No. of children	Total No. of Cavities			
		Sept. 1949	March 1950	Sept. 1950	Percentage increase
Test Schools	30	60	70	89	48
Control Schools	30	35	54	83	137

These figures alone appear to be significant, but I may add that one child in the test group is responsible for an increase of 5 carious teeth; this is an exceptionally delicate child, is on a special fat-free diet, and has been off school for long periods, thus missing her ammoniated dentifrice treatment during her periods of absence, while another child has been absent for three months and is responsible for an increase of 2. I feel justified, how-

later date.

I wish to acknowledge the help received from Dr. Stuart Laidlaw, Medical Officer of Health, whose keen cooperation made the investigation possible; Miss Elsie Webster, D.D.O., L.D.S., for her meticulously careful charting and help; Dr. Carter, the City Bacteriologist and his assistant, Mr. Wilson, for their willing help and suggestions regarding the laboratory tests, and to Miss Ferguson and her staff for the careful supervision of the children at the selected nursery schools.

ANNOUNCEMENT

ART EXHIBIT

(In connection with the C.D.A. Convention) Ottawa, September 23-26, 1951.

Get your entries ready for Art Exhibit. Open to dentists and members of their families. Camera prints, oils, water colours and crayons will be gladly received. Send in that enlarged snap of which you are proud! All exhibits will be carefully returned. For further information, write:

Dr. A. W. Grace, Chairman of Art Committee,
56 Sparks Street, Ottawa, Ont.

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1876



September 23, 24, 25, 26, 1951

OTTAWA, OUR CAPITAL CITY, is worth a visit in September. The annual meeting of the Canadian Dental Association provides an opportunity to enjoy a good dental program and see our nation's capital city. The Eastern Ontario Dental Association is cooperating host this year and that ensures a good time for all.

Have you sent your application for hotel accommodation to Dr. H. N. Beach? His address is 150 Metcalfe St., Ottawa.

SEE YOU IN OTTAWA AT THE CONVENTION!

Dr. Charles Williams is known to all Canadian dentists. The title of his presentation will be—

**PRESENT STATUS OF PREVENTION
OF DENTAL DISEASE**

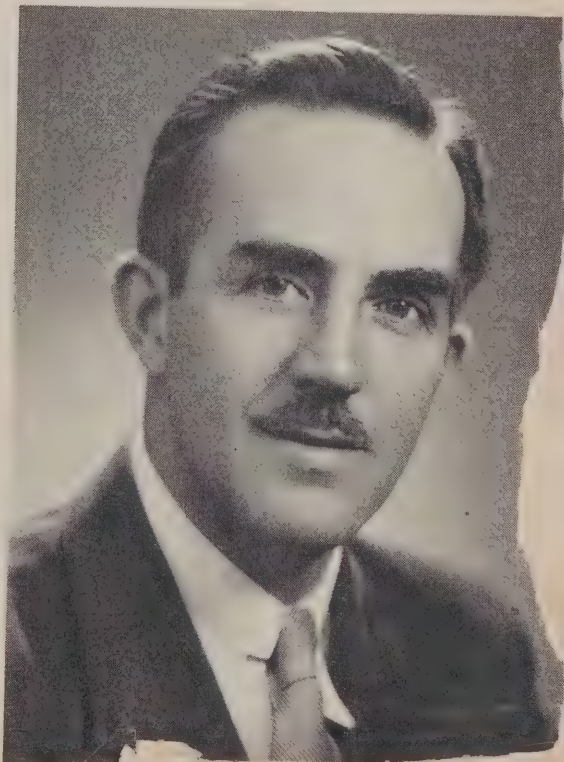
The trend in the teaching and practice of dentistry shows a movement through increasing conservation of dental and oral structures to, finally, prevention of dental and oral diseases.

Treatment service as provided by the dental profession during this last one hundred years does not constitute an adequate public health service. The incidence of dental and oral disease has not been reduced and only a small part of the population is receiving adequate treatment service. It is obviously our responsibility to examine critically and to employ all the practical methods which have been developed for the prevention of dental disease and for the conservation of dental and periodontal structures. The term oral medicine includes all such activities.

An attempt will be made to describe the application of each of the established methods of prevention of dental and periodontal disease.

Dr. Charles H. M. Williams, B. Sc. (Dent.)

Associate Professor in Periodontics
University of Toronto



ANNOUNCEMENTS

WESTERN CANADA DENTAL SOCIETY'S BIENNIAL CONVENTION

A program of unusual interest has been prepared.

The Essayists and Clinicians include:

DR. HERMANN BECKS, of San Francisco, Professor of Dental Medicine, University of California.

DR. RALPH IRELAND of Lincoln, Nebraska, Professor of Pedodontia at the State University.

DR. E. M. SCHAFFER, Periodontist of the University of Minnesota.

DR. KARL BRUCE of the Dental Surgery Section of the Mayo Clinic.

DR. WM. SIMON of the University of Minnesota
who will discuss "*Aspects of Preventive Dentistry.*"

DR. LEMAR HARRIS of Chicago, an authority on Dental Plastics.

Several high class table clinics and films will round out the technical side of the program. Luncheons, dinners, good speakers, golf and dancing are included in the festivities.

THE ANNUAL CONVENTION OF THE MARITIME DENTAL ASSOCIATIONS under the auspices of the Dental Association of Prince Edward Island, will be held at The Charlottetown Hotel, June 27-29, 1951, Charlottetown, P.E.I.

ONTARIO DENTAL ASSOCIATION CONVENTION at Royal York Hotel on May 14, 15, and 16 with Sunday evening concert on May 13.

CLASS 2T1 will hold their Thirtieth Anniversary party at the King Edward Hotel on May 14. Write Roy Kerr, 509 Danforth Ave., Toronto.

CLASS OF 16 are making plans for a reunion celebration on May 14. Write Dr. E. G. Berry, 300 Spadina Rd., Toronto.

CLASS 3T1 REUNION—Twenty Years. A reunion of this class will be held in the Royal York Hotel, Monday, May 14. Write and tell us you are coming. R. E. Martin, 1466 Bathurst St., Toronto.

CLASS OF 4T1 REUNION to be held Monday, May 14 at Royal York Hotel—Write Joseph F. Cooney

THE 1951 ANNUAL A.D.A. MEETING will be held in Washington, D.C., October 15-18.

NORTHWESTERN UNIVERSITY ANNOUNCES ITS CENTENNIAL IN 1951. As part of the celebration, the Dental School will present an outstanding program at its Homecoming, June 4-8. The alumni school will offer intensive two-day courses in several popular subjects to be followed by two days of scientific essays, practical clinics, and technical exhibits. A university conference representing the biological field will present distinguished speakers discussing "Problems of an Aging Population."

The Forum

COMPULSORY HEALTH INSURANCE

An opinion by DEAN ERNEST G. SLOMAN

School of Dentistry, College of Physicians and Surgeons, San Francisco

Condensed from *Journal of the California State Dental Assoc.*, Dec. 1950.

I am opposed to compulsory health insurance and to State medicine (these are two of the various forms of socialized medicine) for any comparatively large segment of the American people for many reasons. Among these are:

1. The standard of health service has deteriorated in practically all countries that have adopted one or the other of these forms of health service.

2. The purveyors of health services being human beings cannot serve two masters, i.e., the patient and a governmental bureau.

3. I am against compelling any considerable segment of the American public to submitting to any insurance scheme.

4. There is nothing more precious to me than my health and the health of those I love. This being so, I choose that political expediency does not become a factor in decisions relating to my health.

There are five basic patterns for rendering health service. I list them more or less according to their degrees of socialization.

1. The doctor, patient fee relationship.

2. Voluntary health insurance.

3. Compulsory health insurance.

4. State medicine.

5. Public health service.

The last four are highly socialized plans, while the first stands out not because it is not socialized in any way, but because it is so comparatively free

of rules, regulations, and impositions established by sources other than the purveyors and the recipients, that it may be properly held in contrast to current proposal for socialized medicine.

The doctor, patient fee relationship. I need not describe this, for all of us have lived more or less under its arrangement. Under this basic and natural plan the standards of health service in America have risen to great heights.

Voluntary health insurance. This plan operates without compulsion of law and is one in which groups band themselves together to protect themselves against the cost hazards of health service. It is wholesome, it is American, and if given the support it deserves it will likely be embraced by all those who wish to spread their costs for health services evenly throughout their lives. The recent offering of the California Physicians' Service of a form to protect one against the cost hazards of catastrophic illnesses is a great step and in the right direction.

Compulsory health insurance. Compulsory health insurance should be more appropriately designated as "required periodic payments for health services."

It is claimed that there is free choice on the part of the insured person and on the part of the purveyors of the services. This is only partly true. It is a very highly socialized form of health services.

State medicine. This is the method that prevails for all the people of Russia. The purveyors of the services are paid on a salary basis. The patient has no choice as to who will treat him and the doctor has no choice as to whom he will treat. It is very highly socialized.

Public health service. This method is concerned with the health of the masses as contrasted with service for individuals. While it is a highly socialized form of health service, I don't think anyone is prepared to abandon it.

The following is a proposed text of a resolution I would suggest for presentation to the Public Health Committee and in turn to the Board of Directors of the _____

WHEREAS, Schemes for rendering health services involving payment by compulsion have been tried in practically all the countries of Western Europe during the last half century; and

WHEREAS, The quality of care, research, and education has been retard-

ed in each in proportion to the degree of socialization, as compared with plans heretofore in effect in the United States, which country has not embraced compulsory membership in governmentally operated plans; and

WHEREAS, It is inconceivable that a government can buy better health services for individuals than can individuals purchase for themselves except at vastly and unwarrantedly increased costs; and

WHEREAS, The spreading and evening of cost principle is now thoroughly available without compulsion; now, therefore, be it

RESOLVED, That the Board of Directors of _____ records itself as unanimously opposed to any plan for health service that compels private citizens, whether they will to or not, to pay for a form of health services whether they want it or not; be it further

RESOLVED, That a copy of this resolution be spread on the minutes of the _____, 1950, meeting of the Board of Directors of _____.

TOOTH BRUSHING

by NORMA FORANT, President Rhode Island Dental Assistants Association

Excerpt from Dental Assistant

The dental assistant should advise the patients concerning tooth brushing habits. Instructions should be given as to how the brushing should be done, particular attention should be given as to how the interproximal spaces should be cleaned. This is one of our present problems among all types of individuals, their care of the interproximal spaces.

There are individuals who find that they cannot brush their teeth because of some condition present in the mouth. They should be advised in the use of correct mouth rinses; however this is not a substitute for the brushing of their teeth. I find that the use of a piece of sterile gauze soaked in the mouth rinse solution, and have the patient use this to clean the teeth,

gums, and oral tissues, is very helpful. It will help greatly in keeping the mouth and tissues clean. The kind and type of mouth rinse used should be prescribed by the dentist.

Children should be taught to brush their teeth after each meal and before going to bed. Candy should be given to children after meals and not between meals. The brushing of their teeth should be advised particularly after eating candy.

Research work has been done on the cause of caries by the indiscriminate use of candy. This we will all accept to be true, as we see it every day in our offices. The abuse of the use of sugar has caused more caries than we realize. For better health, explain to your children the proper use of candy.

REGENERATION AND REATTACHMENT OF SUPPORTING STRUCTURES OF THE TEETH

by W. J. LINGHORNE, D.D.S., and D. C. O'Connell, M.S.A.

Banting and Best Department of Medical Research, University of Toronto, Toronto, Ontario

Summary of paper in Jour. of D. Research

1. In dogs, following the surgical destruction of a section of the periodontal membrane and alveolar bone, connective tissue reattachment of the gingival tissues to the tooth by a deposition of new cementum was repeatedly obtained.

2. Uneven resorption of both cementum and dentine may take place prior to cemental apposition.

3. New cementum may be laid down

on the old cementum or directly on dentine.

4. In the reattached gingiva, the connective tissue fibres run in a direction parallel to the tooth rather than in the characteristic oblique or horizontal direction.

5. The oral epithelium appears to proliferate downward when reattachment fails but not when it takes place.

6. Some regeneration of alveolar bone occurred.

THE BIOPSY

by JOSEPH L. BERNIER, D.D.S., M.S., and RICHARD W. TIECKE, D.D.S., M.S., Washington, D.C.

Summary of paper in Jour. of Oral Surg., Oct. 1950

Submit accurate and complete clinical history with the specimen.

Remove sufficient tissue to ensure having representative material.

Submit roentgenograms to the pathologist if they are of value in the diagnosis.

Take periodic biopsies to follow the course of a lesion or to check for recurrence.

Use sufficient volume of fixative.

Use frozen section technique but only when absolutely necessary.

Don't biopsy a small lesion—remove

it entirely.

Don't use cautery—heat destroys tissue detail.

Don't take specimen from active necrotic area unless bacterial stains are desired.

Don't allow tissue to dry out before fixation.

Don't always depend upon a single biopsy—several from different areas may be necessary.

Be quick to suspect cancer but slow to diagnose it. Corroborate the diagnosis by all available means.

TOPICAL APPLICATION OF SODIUM FLUORIDE

by VAGN MOLS-PETERSEN

Summary in paper in Tandlaegebladet, October 1950

The results are presented of a study of the incidence of dental caries in a group of children (average age 8.0 years) in Esbjerg, Denmark, who received four topical applications of 2 per cent solution of sodium fluoride at intervals of three months during a year. Prior to the first fluoride treatment each child had a dental prophylaxis consisting of polishing the teeth with pumice and hydrogen peroxide.

A dental examination of each child was made with mouth mirror and explorer and with compressed air available. The procedure employed was as follows: Both the test and the control quadrants were swabbed with hydrogen peroxide (30%) to clean out tooth crevices and interproximal spaces. The teeth were isolated with cotton rolls and the surfaces of the teeth were dried with compressed air. Thereafter all

surfaces of the teeth in the test quadrant were kept wet with a 2 per cent sodium fluoride solution for five minutes. The permanent teeth in one quadrant of the upper jaw were treated and the permanent teeth in the other upper quadrant served as controls. The time spent on each of the children was 60-70 minutes yearly.

One year after the first treatment the teeth of the children were re-examined by the same examiner as before. He did not know which teeth had been treated.

Results:

Table 1. The incidence of caries was

40% higher in the untreated than in the treated quadrants.

Table 2. The difference in rates per cent of new carious teeth between the treated and untreated quadrants was 10.2% and 3.0% as to the surfaces.

Table 3. The difference in rates per cent of noncarious surfaces of the teeth, which were carious at the beginning of the experiment was 3.5%.

Table 4. 13.7% of the few teeth erupted under the experimental year in the untreated quadrants were carious at the end of the year. None of the few teeth erupted in the treated quadrants were carious.

THE TRUE HAEMOPHILIC AS A PROBLEM IN ORAL SURGERY

by ANDREW M. LINZ, New York, N.Y.

Conclusions of paper in N.Y. Jour. of D., Jan. 1951

As has been pointed out, haemophilia is a condition in which surgical intervention should be carried out only when absolutely necessary and not at all in elective procedures. Since such procedures are a definite hazard to the patient's life, it behooves the surgeon to be well acquainted with the manifestations of this hereditary condition and to know how a differential diagnosis between haemophilia and other allied blood dyscrasias can be carried out. He should also be familiar with the coagulation-time test on which hinges the diagnosis for this condition and which can be used as a guide as to how effective his treatment has been. He should see that this test is carried out properly and that it accurately reflects the patient's condition. As far as possible where surgical procedure is concerned, he should be acquainted with the dangers of certain types of block anaesthesia and with the unfavourable effects that any traumatic procedures during the operation might have on the extent of the post-operative haemorrhage. No pressure of any sort ought to be employed to control the bleeding after surgery in contrast to procedures normally carried out on

patients with a coagulation time within normal limits. Local treatment at the site of the operative wound should be instituted in the form of gelfoam soaked in thrombin or in the form of styptics such as ferric subsulphate. The surgeon ought to realize the dubious value of these regimes and should therefore not place too much reliance on their use. Of great value in the management of these patients is the therapeusis with whole blood or even better, with the specific plasma globulin fraction which should be administered pre- and post-operatively to the patient, to give him, at least temporarily, a nearly normal blood picture. The surgeon further should be aware of the possible complication of an antigen-body reaction as a result of such treatment.

Two factors that should be kept in mind by the oral surgeon who is treating a patient with haemophilia are that such a patient is definitely a hospital case and should not be treated in the dental office; and perhaps of even greater importance is the fact that the responsibility for the management of such a patient should be shared by the oral surgeon with a competent haematologist.



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Editorial

THAT RUT

People get themselves into a rut which reminds me, says Dr. Norman Vincent Peale of New York, of a sign an old farmer put up one lovely spring beside a dirt road—"Choose your rut carefully. You will be in it for the next twenty-five miles." A great many dentists seem to have chosen their rut and have stayed in it for twenty-five years, more or less. One of these ruts is routine—I have always done it that way, day in and day out, with little or no variation! That ought to be broken at any cost. The Alabama Baptist has this to say:

"If your nose is close to the grindstone rough
And you hold it down there long enough,
In time you'll say there's no such thing
As brooks that babble and birds that sing.
These three will all your world compose—
Just you, the stone, and your ugly nose."

I was impressed with an article which appeared some time ago in *Efficiency Magazine*. It was entitled "We've always done it this way" and reads as follows: "The most common obstacle to efficiency that I have had to overcome is that old saying, 'We have always done it this way.' This saying is the Maginot Line of the unteachable. It is the slogan of the robot.

"In spite of fifty years of inventions and a flood of new ideas and methods, this saying still persists. Many a time I have been obstructed by it.

"Once, when called in by debenture holders to save a sick firm from death I found it had made no net profits for three years. It had lost half of its capital and it was in the hands of a receiver.

"Yet, when I set out to make drastic changes, I was told: 'We have always done it this way.' Judging by results, nearly everything this company had been doing was wrong, but it put up a defence against improvement.

"The truth is we are all far more automatic than we think we are. We might as well hang up our heads with our hats when we go to work, for all the thinking we do. We work almost as automatically as we walk, most of us do.

"Almost everyone falls into a rut. We turn our work into a habit, because that makes it easier and relieves us from the mental work of thinking.

"There is always a war on between technique and tradition. Tradition is entrenched. It is dignified by the name of 'experience'. To overcome it is no easy matter.

"No habit of work is too foolish to become standardized. When Koreans dig, one man pushes the spade in the ground and four other men jerk it out with a rope. They have always done it that way.

"When Henry Ford wanted plate-glass made in a continuous sheet, his glassmakers said: 'It can't be done.' So Ford let his glassmakers go, and put on a gang of clever mechanics who could think while they worked. In a few months his glass was being produced in a continuous sheet, like paper.

"It is a fact of human nature that we turn every possible thing into a routine without first making a study of it. We almost make it a ceremony. Even the buying and selling of goods is a ceremony in Spanish countries, so I have been told.

"When once a bad habit or a wasteful practice gets started in a firm it may go on for fifty years or longer. The longer it goes on, the harder it is to stop it.

"Actually, a man may become so tied up mentally that he will say: 'What was good enough for my father is good enough for me.'

"That is why most of the important inventions in any industry have been made by outsiders, by men who were not dominated by the routine of the industry.

"When the methods of efficiency are applied to any business we pay very little attention to the critics and croakers who try to protect their inefficiency by saying: 'We have always done it this way.' "

It is unfortunate, but true, that all of us have a tendency, particularly as we get older, to get into a rut and to keep on doing things in the same old way just because we have always done them that way.

Yes, dentistry is moving forward and dentists with a vision will demand, and an enlightened public will demand, that dentistry be practised efficiently.

One can, and should, read the dental literature. One can, and should, join study groups. One can, and should, take post-graduate courses from time to time, but this is not enough. Nothing quite takes the place of attending conventions, sitting at the feet of the leaders in our profession as they seek to bring to our attention the latest in dental thought and practice.

During the past year the writer has attended four conventions and taken one postgraduate course and has found these little enough to keep in touch with the great and rapid advancements in our noble profession.

Now is the time to plan our personal convention program for the coming months. The Ontario Dental Association Convention will be held May 14-17, and this is always an important and worthwhile gathering. The Biennial Convention of the Western Canada Dental Society will take place in Winnipeg, June 4-7 and we'll be looking for all western dentists at least. The outstanding convention of the Maritimes Dental Associations is to be held in Charlottetown, P.E.I., June 27-29, and all Maritimers should be there. The Montreal Dental Club holds its annual clinic October 17-19 and this group has never let us down yet, but the MUST for all Canadian dentists is the September 23-26 joint meeting of the Canadian Dental Association and the Eastern Ontario Dental Association being held in our capital city of Ottawa. You simply cannot afford to miss this important national meeting of Canadian dentists. The slogan will be "National Meeting in National Capital". The Program Committee held a number of meetings as early as last September and lined up a superb program even at that time.

This is a meeting that seventy-five per cent of our Canadian dentists should attend and that would be well over three thousand. If even a quarter attended, we would have an attendance of about twelve hundred. Surely one dentist in four is interested enough in getting out of that rut to attend our National Meeting once a year.

All prosperous companies spend much on research. We read that this year the DuPont Company intends to spend thirty-five million dollars on fundamental and applied research. What are we as dentists planning to spend on increasing our knowledge and thereby increasing our income and the standard of our service to our patients? We shall be looking for you in Ottawa in September so mark off the time in your appointment books now.

M.H.G.

ROYAL CANADIAN DENTAL CORPS NEWS

1. The Director General Dental Services, Colonel E. M. Wansbrough has been welcomed back to his office after a two and one half months sojourn in Sunnybrook Hospital, Toronto.

2. His Majesty The King has approved an alliance between the Royal Canadian Dental Corps and the Royal Army Dental Corps, British Army.

3. Capts. C. M. Cornish and R. B. Jackson have recently been promoted to the rank of Major in the R.C.D.C.

4. Major P. R. LaSalle has been promoted to the rank of Lieut.-Col. and appointed to command the newly formed No. 15 Coy. R.C.D.C. (A.F.) with Headquarters in Montreal, Quebec. Lieut.-Col. LaSalle was born in Montreal and is a graduate of the University of Montreal.

He served in Canada and England. On his return to Canada, he was employed in Eastern Canada until posted to the Directorate of Dental Services, Ottawa, as an A.D.D.S. in January 1949.

5. Major G. E. Shragge has been promoted to the acting rank of Lieut.-Col. and appointed to command No. 20 Cdn. Field Dental Detachment with the No. 25 Cdn. Infantry Brigade at present in Fort Lewis, U.S.A. Lieut.-Col. Shragge served in England, Italy and Northwest Europe. He remained with the Army of Occupation until 1946. On returning to Canada he was posted to Western Canada where he served, until he reported to the Directorate of Dental Services for duty as an A.D.D.S. on the 15th of March, 1950.

CANADIAN DENTAL ASSOCIATION NEWS

FROM THE OFFICE OF THE SECRETARY

Meeting called by Ottawa Re Emergency:—A meeting was called in Ottawa March 7 to formulate policy on civil defence casualty services. The representatives called together for this purpose are to be known as "Working Party on Civil Defence Casualty Services". The working party is composed of representatives from the following: Canadian Medical Association, Canadian Nurses Association, Canadian Dental Association, Canadian Hospital Council, the Armed Services, Department of Veterans Affairs, and Department of National Health and Welfare. In addition, certain consultants will be called in to assist.

Doctor G. Ratté Appointed Chairman of Finance: Owing to the death of Dr. Carver it became necessary to appoint a new Chairman of the Finance Commit-

tee. The Nominating Committee has recommended and the Executive confirms the appointment of Dr. G. Ratté of Québec.

National Examining Board: Representatives of all Provincial Licensing Boards, with the exception of Prince Edward Island for which the Nova Scotia representative was appointed proxy, met at C.D.A. Headquarters on February 9. The outline data for the establishment of a National Examining Board, as adopted at the last Annual Meeting, was carefully considered, together with recommendations presented by the Representatives of the various licensing boards. After a full day's discussion a resolution was unanimously adopted requesting the Association to proceed toward the incorporation of a national examining board.

TABLE I

STATISTICAL DATA RE DENTAL PERSONNEL IN CANADA AS OF JAN., 1951
(as reported by Provincial Registrars)

No. of Dentists Reported During Year of 1950							Total Increase or Decrease 1938*	Ratio Total No. of Dentists per Capital Population
Province	Male	Female	Totals	Deaths	Retirements	Additions		
Nfld.	21	0	21	0	0	3	+3	1/16905
P.E.I.	30	0	30	0	0	1	same	1/3200
N.S.	191	1	192	3	0	8	+23	1/3427
N.B.	106	0	106	4	0	5	—4	1/4924
Quebec.	1142	5	1147	7	12	58	+273	1/3466
Ontario.	2081	22	2103	29	11	156	+171	1/2146
Manitoba.	258	1	259	2	2	10	+8	1/3069
Sask.	214	3	217	2	5	21	+7	1/4028
Alberta.	320	1	321	1	0	38	+85	1/2788
B.C.	512	4	516	7	17	48	+154	1/2205
Totals.	4875	37	4912	55	47	348	+720	1/2819

Population figures used in this table are those issued by the Federal Bureau of Statistics as of June, 1950.

*Figures for increase or decrease as compared to the pre-war year 1938 are given for comparative purposes.

TABLE II

MOVEMENT OF CANADIAN DENTISTS DURING 1950

To:	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	U.S.A.	N.W.T.	China	N.Z.
From:														
Nfld.	0	0	0	0	0	0	0	0	0	0	0	1	0	0
P.E.I.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N.S.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N.B.	0	0	0	0	0	0	0	0	0	0	2	0	0	0
Que.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ont.	0	1	0	0	0	0	0	0	3	2	0	0	1	1
Man.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sask.	0	0	0	0	0	0	1	0	1	4	0	0	0	0
Alta.	0	0	0	0	0	0	0	0	1	3	0	0	0	0
B.C.	0	0	0	0	0	0	0	0	0	2	0	0	0	0

TABLE III
NUMBER PRACTISING SPECIALTIES, BY PROVINCE
 (Only those practising the specialty designated full-time enumerated)

	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Totals
Dental Oral Surgeons (Exodontists).....	0	0	1	0	3	24	3	0	2	2	35
Orthodontists.....	0	0	1	0	14	28	2	0	2	9	56
Periodontists.....	0	0	0	0	2	13	1	0	1	2	19
Pedodontists.....	0	0	0	0	2	2	0	0	0	3	7
Totals.....	0	0	2	0	21	67	6	0	5	16	117

TABLE IV
NUMBER EMPLOYED IN HEALTH SERVICES BY PROVINCE AS OF JAN., 1951

	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Totals
Dental Schools: (Teaching Staff)											
Full-time.....	0	0	1	0	9	10	0	0	1	0	21
Half-time.....	0	0	0	0	14	7	0	0	6	0	27
Hospital Service:											
Full-time.....	2	0	0	2	0	21	4	3	5	0	37
Half-time.....	0	0	0	0	0	7	0	0	0	0	7
School Dental Service:											
Full-time.....	0	0	1	0	0	13	1	0	3	12	30
Half-time.....	0	0	3	2	10	49	3	0	1	0	68
Public Health Service:											
Full-time.....	1	1	4	1	9	10	2	1	0	2	31
Half-time.....	0	0	0	0	9	0	0	0	0	0	9

TABLE V
TOTAL NUMBER EMPLOYED BY FEDERAL DEPARTMENTS AS OF JAN., 1951

Department of Veterans Affairs.....	44
Department of National Defence.....	100
Department of National Health and Welfare.....	9
Total.....	153

NEWS FROM THE PROVINCES

BRITISH COLUMBIA

A number of British Columbia dentists will be interested in the forthcoming **Eighth Annual Conference in Dental Medicine of the North West District**, to be held at Sun Valley, Idaho, April 8-13.

Doctor Julius H. Comroe, Professor of Physiology and Pharmacology at the Graduate School of Medicine of the University of Pennsylvania, and Clinical Physiologist at the University of Pennsylvania Hospital will present the topics:

"Physiology and Pharmacology of Pain"; "Physiology and Pharmacology of the Cardiovascular System"; "Physiology of Respiration"; and "Oral Physiology."

Doctor Floyd Skelton, Associate of Doctor Hans Selye, Director of the Institute of Experimental Medicine and Surgery of the University of Montreal, will lecture on:

"Physiology of the Adaptation Syndrome"; "Metabolic and Morphological Changes in the General Adaptation Syndrome"; "Stress and the Alarm Reaction"; and "ACTH, Cortisone and the Growth Hormone".

These conferences, held in various places in the northwestern States and British Columbia in past years have attracted a considerable number of British Columbia practitioners, and the announced program promises a more than usually interesting session.

The March meeting of the **Vancouver and District Dental Society** was addressed, in both afternoon and evening sessions, by Doctor Frank H. Wana-maker, Professor of Oral Surgery at the University of Washington Medical and Dental Schools. His subjects were "Emergency Tracheotomy and Deep Neck Infections." and "Oral Neoplasms."

With the arrival of the preliminary program for the **Pacific Coast Dental Conference**, to be held in Seattle June 25-28, interest is being aroused in this outstanding meeting. British Columbia and Alberta will contribute several clinics, as usual, and a large representation of the profession from the Canadian western provinces is expected to attend. Since this large conference is being held so close to British Columbia this year, our usual annual convention will not be held in 1951. The annual meeting of the British Columbia Dental Association will be held on June 27, at the Conference in Seattle.

The **Fraser Valley Dental Society**, embracing a large part of the entire lower mainland territory of British Columbia, has maintained its reputation for regular monthly meetings at various centres in the district. In January, Doctor Clay Hallman, President of the Vancouver and District Dental Society, presented a table clinic on Prosthetic Dentistry, at the Empress Hotel at Chilliwack. At the February meeting, Doctor Emery Jones, President of the Council of the College of Dental Surgeons of this Province, spoke to the group on "Dental Economics." Doctor Pallen, Registrar of the Council, also addressed this meeting on the Dental Act of British Columbia.

For the March meeting, the Society met at Mission City to hear an address by Doctor R. J. O'Neil, of Vancouver, on Paedodontia, and to inspect a table clinic on "Space Maintainers."

Interest throughout British Columbia is being aroused in the programs of "**Preventive Dentistry**" being sponsored by the Division of Preventive Dentistry of the Department of Health and Welfare of British Columbia. These programs have been planned by co-operation between members of the Dental Public Health Committee of the British Columbia Dental Association and the officials of the government departments. The Journal will shortly have a paper giving the details of the nature of these programs, and indicating the methods of placing them in operation.

ALBERTA

The **Calgary Dental Society** met on January 8th to combine its regular monthly meeting with the telephone broadcast on "Appraisal of Dental Materials" sponsored by the University of Illinois. A large number of members were present.

A liaison committee is to be formed from the Dental Society and the laboratory technicians. This committee will

deal with problems arising between the profession and technicians.

On January 25, a special meeting of the Calgary Dental Society was held in the Palliser Hotel. Dr. M. H. Garvin, Editor of the "Journal of the Canadian Dental Association" and dental practitioner of Winnipeg was the guest speaker. The afternoon talk was on "Office Administration and Business Management." Dr. Garvin expressed his views that net profit in relation to overhead expenses is greatly increased by group practice. Slides were shown of methods of charting of patients, and recording of expenses and income. Dr. Garvin also dealt with "Periodontics" to which a major part of his practice is devoted. Besides slides on this subject, types of instruments and brushes were demonstrated.

The Society then adjourned to the Sunroom for an informal gathering before dinner.

After dinner, Mr. Root of the Upjohn Company, showed the Society a technical film on the use of "Gelfoam" which proved to be interesting.

A presentation was made to Dr. Garvin by the Calgary Dental Society as a small token of appreciation for his lecture and clinic. Dr. John Clay, in making the presentation, told the Society of the unbending and tireless effort that Dr. Garvin has put into the Journal of the Canadian Dental Association since its origin seventeen years ago.

During the evening lecture, Dr. Garvin stressed the importance of periodic examinations through a recall list. He touched briefly on recent concepts of antibiotics in relation to Dentistry. He also spoke of the use of common sense in fees. Luxury dentistry was often forced upon patients who could ill afford it, where less expensive dentistry would prove quite satisfactory.

Dr. C. Spencer Lea, on behalf of the Calgary Dental Society, then thanked Dr. Garvin for his enjoyable clinic and visit.

R. T. S.

Curling at Calgary: On February 9, 26 Calgary dentists, dental supply men, and laboratory technicians met at the Glencoe Club for curling. This was the first meeting of its kind and was much enjoyed by all. The winning rinks were presented with prizes from Denco, Ash Temple Co., and Dr. Baden-Powell.

A banquet was held in the club dining room, and it was unanimously agreed that the ice be reserved for the last Friday in March. A vote of thanks was given to Dr. Jack Walker for making the arrangements.

The regular meeting of the Calgary Dental Society was held in the Palliser Hotel on February 12. The telephone

broadcast from the University of Illinois on Preventive Dentistry was heard. Among the out-of-town dentists present were Dr. Rylands from Lethbridge, Dr. Bedingfield and Dr. Irons from High River, Dr. Alexander from Nanton, Dr. Walkey from Drumheller, and Dr. McNichol from Didsbury.

A motion that the Society fees be increased from \$10.00 to \$15.00 a year was carried. The annual election of officers for 1951-52 took place. These were: President, Dr. R. T. Shillington; Vice-President, Dr. L. K. Brooks; Secretary-Treasurer, Dr. M. Bay. R. T. S.

On January 24, **The Edmonton And District Dental Society** held an afternoon and evening clinic in the MacDonald Hotel. Dr. Harry Garvin of Winnipeg, Editor of the Journal of the Canadian Dental Association was the speaker on the subject of "Practice Management." There were about 75 dentists from Edmonton and district in attendance. Special guest at the head table at dinner was a classmate of Dr. Garvin's, Dr. A. E. Jamieson.

The regular monthly dinner meeting of the Edmonton and District Dental Society was held in the MacDonald Hotel, February, 1951. Dr. W. A. Quigley, Associate Professor of Orthodontics at the University of Alberta, presented a paper on "Present Day Concepts of Orthodontics." Dr. Quigley traced the development of Orthodontics from ancient times, to the present day. He stressed particularly the rapid change in concept over the past twenty-five years, from the theory of Dr. Angle based on the relationship of the maxillary and mandibular first molars to the present theories of growth and development patterns. He stressed the importance of a careful study of growth, and development, over a period of years if necessary, in order to make an accurate diagnosis, and to minimize the length of treatment, if necessary. He pointed out that the chronological age and developmental age in certain patients was not always the same at any given period.

Dr. Quigley then led an interesting and lively discussion on problems of the general practitioner.

Announcement of the annual banquet and dance of the society to be held Friday, March 9, was made. J. D. McL.

SASKATCHEWAN

Saskatoon Dental Society has been taking the Telephone Extension Program on Current Advances in Dentistry from the College of Dentistry—University of Illinois. These meetings have been well attended by the members of the society,

not only by those who live in the city itself, but also several from outside points. Each program has been followed by considerable discussion by our own group and have proved valuable to the members.

The Society had the pleasure of having Dr. Alvin Buckwold, a local children's specialist present an illustrated lecture on Cerebral Palsy. He outlined the very valuable work that could be done for these unfortunates and what was being done in the Saskatoon Cerebral Palsy Clinic. L. D. H.

ONTARIO

Inaugural Meeting of The Canadian Society of Dentistry For Children, Royal York Hotel, Toronto, May 12, 1951: "No finer compliment could be paid to any dentist than to indicate that he has a motivating interest in Dentistry for Children. Such interest shows that he has faced the facts realistically and has oriented the many facets of dental practice, taking first things first and being concerned about control and prevention as to their importance and place".

So states Dr. Hugo Kulstad, President of the American Society of Dentistry for Children.

We can pay such a compliment to well over 100 Ontario dentists who form the nucleus of a Canadian Society of Dentistry for Children.

ALLAN GIBSON BRODIE

Dean, College of Dentistry, Univ. of Illinois



The inaugural meeting of this new society will be held on May 12, 1951, in the Royal York Hotel, Toronto. A splendid one-day program has been prepared. The opening exercises will be conducted by Dean Roy G. Ellis, Faculty of Dentistry, University of Toronto. Dean Allan Brodie of the University of Illinois Dental School will be the guest lecturer. During the morning session, he will speak on "The Dentist's Responsibility to Children". During the afternoon, he will discuss "Growth and Development of the Face and Jaws", a subject in which he is an outstanding authority and has contributed much to our knowledge through his writings on the subject.

The luncheon speaker will be Dr. Alan Brown, Physician-in-Chief of the Hospital for Sick Children, Toronto, and one of the most widely known and respected authorities in Paediatrics on this continent.

Dr. M. A. Cox, Professor of Preventive Dentistry, Dr. Harry Ebbs, Staff Paediatrician at the Hospital for Sick Children, Dr. E. W. McHenry, Professor of Public Health Nutrition, School of Hygiene, University of Toronto, and Dr. Gordon Nikiforuk, Associate Professor of Paedodontics of the Faculty of Dentistry, will contribute to the day's program.

A panel of experts in their field will close a most educational and practical day's program, when those present will have an opportunity to direct questions to them. Those participating on the panel discussion include: Dr. E. W. McHenry, Dr. Gordon Nikiforuk, Dr. S. A. MacGregor, Dr. G. V. Fisk, and Dr. C. H. M. Williams.

All Canadian dentists are urged to become members of the Canadian Society of Dentistry for Children and may do so by sending their membership fee of \$6.00 to the interim treasurer, Dr. W. J. Dunn, 2781 Yonge St., Toronto.

PLAN TO ATTEND — REGISTER EARLY — DO IT NOW!

The members of the newly elected **Academy of Dentistry**, Toronto, are as follows:—

President—Dr. M. G. Boyes

Immediate Past President—Dr. Earl Bancroft

Pres.-Elect—Office to be filled

Secretary—Dr. E. J. Henderson

Treasurer—Dr. W. J. Smith

Councillors:—

North—Dr. Harvey Milburn

East—Dr. Beverley King

Centre—Dr. Ron Wylie

Downtown—Dr. D. H. MacDonald

West—Dr. J. V. Herbert

Owing to the untimely death of Dr. Gordon Frawley who would have been the new president of this association for 1951-52 Dr. Mark Boyes assumes this of-

fice. The vacancy of president-elect will therefore be appointed by council.

The guest speaker at the final meeting of the **TORONTO ACADEMY** on March 7 was DR. DOROTHEA RADUSCH of Minnesota. This talented student and lecturer in periodontics and nutrition gave an excellent address stressing the positive suggestions that can be made to patients in relation to their diet in preventive dentistry. Her approach to the dietary problem of treating dental disease is most practical. Dr. Radusch has promised to write an article for publication in this journal.

The Third meeting of the **London and District Dental Society** was held on Feb. 13 at the Hotel London with Dr. Doug. Stiles presiding. 70 dentists were present to hear the guest clinician Dr. Emmet Beckley of Kansas City, Missouri. The afternoon session consisted of a series of Kodachrome slides illustrating a lecture on "Full Denture Problems". The evening clinic was a discussion entitled "A Modern Immediate Denture Service" illustrated by motion pictures in colour. Dr. Beckley displayed a good sense of humour as he brought out his points and his clinic was much appreciated by the large gathering.

Extramural Lectures Given By Staff Members of the Faculty of Dentistry, University of Toronto during March were as follows:—

BAY OF QUINTE, Dental Society meeting at Belleville was addressed by Dr. F. T. Pearson on March 21.

LAMBERTON COUNTY DENTAL SOCIETY was addressed by Dr. Gordon Johnston at Sarnia on March 27.

MUSKOKA — SIMCOE DENTAL SOCIETY meeting at Orillia was addressed by Dr. R. E. Moyers on March 28.

DR. W. G. MCINTOSH was guest of the Cleveland Dental Society on March 5; DR. M. R. CULBERT was guest of the Orthodontic Department College of Dentistry, Ohio State University on March 13; DR. C. H. M. WILLIAMS was guest of Philadelphia Academy of Stomatology on March 20.

Dr. Gordon Nikiforuk represented the faculty teaching staff at the annual meeting of the American Association of Dental Schools at French Lick, Indiana, on March 19-21.

The Ladies' Auxiliary to the Academy of Dentistry held their February meeting at Prince Arthur House at which Mrs. Angus Campbell reviewed her book "The Saskatchewan."

At this meeting it was reported that \$785.00 was raised at the January Bridge, this sum to be added to the fund

already established at the Faculty of Dentistry for children with dental abnormalities.

Dorothy J. McPherson.

Of the 2,216 **Galt School Children** examined by the school dentist in 1950, some 1,579 were found to have dental caries and there were many cases of malocclusion and other dental defects.—*Galt Reporter*.

QUEBEC

Dr. J. Kenneth Carver—At the request of the president, Dr. C. R. Seller, Dr. J. W. Abraham presented the following tribute to the memory of the late Dr. Carver at the February meeting of **The Montreal Dental Club**. With the unanimous approval of the members, this was recorded in the minutes of the club.

King George VI once said: "No man can be a leader unless he has a desire in his heart to leave things better than he found them."

John Kenneth Carver, D.D.S., F.A.C.D., F.I.C.D., was born Jan. 31, 1901 and passed away suddenly Jan. 28, 1951.

This sudden passing, besides stunning the people of Montreal, removed from our midst a colleague of experience and knowledge in both the teaching of, and the practice of, Dentistry.

The Dental Bodies of the Province of Quebec, yes, of the Dominion of Canada, have suffered a severe, irreparable loss in his passing.

Ken, for such he was known by all, was graduated from McGill University in 1923 with the degree of Doctor of Dental Surgery. He practised from that time as a general practitioner in Montreal, except for a period of four years service in the Royal Canadian Dental Corps during World War II, holding at the time of his retirement the rank of Major.

In Dental Affairs, apart from his private practice, no man contributed more time and effort. For years he represented the Province of Quebec on the Canadian Dental Association Board, and was still keenly active with them at the time of his death. His efforts were truly appreciated and in 1949 he was honoured by being elected president of the Association.

Ken was also Vice-President of the College of Dental Surgeons of the Province of Quebec, having passed up the Presidency several years ago on account of his war services. No one can define his usefulness to this body and to the Province. His sound common sense was of utmost value in many matters.

The Montreal Dental Club of which he was President in 1941 was still very

much in his thoughts, and his interest, encouragement and advice are going to be sadly missed.

These three professional bodies knew Ken and his worth, but his reputation spread, as well it might, and in 1950 he was honoured by having conferred upon him, Fellowships in both the American College of Dentists and the International College of Dentists.

The interests of Dentistry perhaps concern us most, but Ken had time to be interested in other bodies besides those of his profession.

These interests were legion. At 28 years of age he was Supreme Grand Knight of the Knights of Columbus in which organization he continued to take an active part throughout the years.

Ken was also a charter member and past president of the Westmount Rotary Club and was still an active member at the time of his death. In addition to these organizations he was active also in his Church, St. Mary's Hospital, St. Patrick's Society, McGill University and many others too numerous to mention.

Gentlemen, we have lost, not necessarily a shy man, but a reserved man, one who had warm affection for his fellow Man.

We have lost a dentist of culture, who branched out into other fields in his spare time, an inspiration to others, a man of wonderful judgement, tolerant, frank and fair—one who fought fairly for his ideals and who was always prepared to fight for Right.

We have lost a good speaker, a wonderful parliamentarian, who stimulated the minds of his listeners and gave food for thought.

We have lost a home man, a lover of his small family, of his Church and of his Community, truly a wonderful citizen.

We are all much poorer because of the passing of Dr. Carver. To be cut off so early in life, at a time when his great abilities were making such a contribution to his chosen profession is a pity, a catastrophe.

The memory of John Kenneth Carver, a good citizen, will remain with us and will have its influence upon us for many years to come. He was a leader, he left with us a Name and Works to back it up.

"**Occlusal Patterns**" involve all phases of dentistry . . . more dental failures result from faulty occlusion than from any other factor . . . so stated **Dr. Felix French** of Ottawa when he addressed the members of **The Montreal Dental Club** on February 19, 1951.

Introduced by Dr. I. K. Lowry, Dr. French prefaced his remarks by referring to a previous occasion when he pre-

sented a three-day clinic to the members of the club, 27 years ago.

Comparing the natural and the artificial occlusions, Dr. French referred to the centric position as being but a momentary and occasional, but all important relationship; the rest position as the main position, and which is constant throughout life; and the freeway space, usually about 3 to 4 mm., but which seems to increase slightly in older patients.

As the natural teeth are imbedded in the paradontium, it is impossible, therefore, to reproduce this condition with artificial restorations. In addition, it is not desirable to have the natural teeth in contact on the balancing side, but with artificial teeth, this is essential.

Referring to the works of Gysi and Hanau, Dr. French stated that cusped teeth were merely the raw material which must be moulded for each case. He felt, however, that where the mandibular ridge formed an angle of less than 80° with the maxillary, it is impossible to use cusped teeth; also, that this condition exists in the great majority of cases. Hanau, Gysi and French all agree that the narrower the alveolar ridge, the narrower the teeth must be; i.e., the width of the artificial teeth should be commensurate with the width of the ridge; this is, of course, to ensure that the pressure is always inside the line of the ridge. This, states Dr. French, necessitates the elimination of lateral stress which would be applied outside the ridges in the majority of cases where cusped teeth are used.

Another factor favouring the cusplless tooth is that with the settling of the tissues, no change in the centric occlusion is required and relining is necessitated only when marked closure of the vertical relationship is noted. With the cusped tooth, however, the slightest closure of the vertical dimension will result in the centric relationship being destroyed.

Dr. French referred to Dr. Pleasure's Pattern or Design where the buccal cusp of the lower tooth has been removed resulting in the pressure of mastication being directed lingually on the lower and buccally on the upper. This, he stated, stabilizes the lower denture, but at the sacrifice of the upper.

An interesting point was brought up when he stated that he does not use abrasive paste any more as patients can masticate far better with the roughened, ground surfaces.

In closing, Dr. French stated that advocates of the cusped tooth will use a cusplless tooth where the ridges are weak. Why, then, he asks, destroy good ridges by using cusped teeth in the first place when it may not be necessary?

Dr. J. McCutcheon expressed the

thanks of the club to Dr. French. The president, Dr. C. R. Seller, was in the chair.

R. F. H.

The fatigue of professional life and the incidental tension of the winter season were relieved for twenty-one members of **The Montreal Dental Club**. The annual **Winter Meet**, under the able supervision of Dr. Art Donohue, was enjoyed over the week-end of February 16-18, at the Chateau Frontenac, Quebec. Members made the trip in a private car of the C.P.R.

Skiing was enjoyed at Lac Beauport and Valcartier, while many members visited the Quebec Curling Club, the Quebec Winter Club, the historic churches and the Art Gallery.

With a flow of soul and weird exchange of rare idioms of the English, Scotch, Irish and French languages, the members solved many professional and social problems in an atmosphere of extreme freedom. The members of The Montreal Dental Club know the value of relaxation and these meetings do much to increase the fellowship and understanding which contribute to efficient and harmonious club management.

D. P. MOWRY.

A dual clinic in the form of a practical demonstration of **Opening into a Multi-Rooted Tooth** by Dr. M. B. Archambault, and a pictorial colour projection of the **Movement Analysis in Rubber Dam Technique** by Dr. A. F. Cameron was presented to the members of **The Montreal Endodontia Society** at the February meeting held in the dental clinic of the Montreal General Hospital.

In the opening presentation, Dr. Archambault prefaced his demonstration by referring to the importance of the posterior teeth saying that, in his opinion, "too much importance to root resection and the treatment of anterior teeth . . ." has been emphasized. Dr. Baxter, ex-professor at McGill, in a lecture on root canal therapy, is quoted as saying that "molars have a functional importance such that I would hesitate to pull any one of them, especially in young individuals." We, as dentists, stated Dr. Archambault, know the importance of saving these teeth, then why not lay more stress on how this can be done?

With regard to mandibular anaesthesia, Dr. Archambault stressed that the mandibular nerve lies midway on a line drawn between the internal oblique line under the retromolar triangle, and the concavity located on the posterior border of the ramus. As this line rarely is parallel to the occlusal surfaces of the mandibular teeth, this latter guide should be disregarded.

With regard to teeth badly broken down with pulpal involvement, Dr. Archambault recommends under local anaesthesia and the rubber dam, the removal of all decay and the excavation of the pulp tissue in the pulp chamber. The pulp chamber is now filled with a cotton pellet saturated with camphorated paramonochlorophenol plus another dry cotton pellet over it. On top of this is placed a small quantity of guttapercha in order to fill the remaining part of the pulp chamber and then an oxyphosphate base cement is inserted. The cavity preparation is now completed and a silver amalgam filling inserted, using a well adapted matrix. This is allowed to set for ten minutes and then with the matrix band and rubber dam still in place, the tooth is opened into to perform the root canal treatments.

To open into a lower molar, diamond or spade, and large round burs are used, the opening extending just to the pulp chamber, not into it which might damage the floor, producing shoulders. A somewhat triangular shaped opening is made with the apex of the triangle being in the central pit, and the base towards the mesial marginal ridge.

In the lower six year old molar, the case demonstrated by Dr. Archambault, he uses reamers Nos. 4 or 5 to counter sink into the canal opening prior to the use of files. File Nos. 1 to 5 are used in the distal canal, or canals; Nos. 1 to 3 in the mesiobuccal and mesiolingual canals. All files must extend to the cementodentinal junction and not beyond. X-rays are used to ensure the exact penetration of the files. Treatment from here on is as for a single rooted tooth.

The presentation of Dr. Archambault ended at this point and the members proceeded to Dr. Cameron's slide presentation of "Movement Analysis in Rubber Dam Technique."

An efficient system and teamwork on the part of dentist and assistant are ab-

solute essentials in any rubber dam technique stated Dr. Cameron. With these considerations as a basis, he showed how the dam may be applied in almost any location in three or four minutes.

The placing of the equipment in easily reached drawers is the starting point for an efficient system. In the operator's drawer are placed six inch heavy dark hygienic dam, rubber dam punch, clamp forceps, clamps and scissors. In the assistant's drawer are found rubber dam holder, rubber dam weights, face pads, saliva ejectors, lubricant, towel clip, compound sticks, matches, burner, and scissors.

With regard to rubber dam clamps. Dr. Cameron recommended for molars and bicuspid: Ivory Nos. 2, 2A, 56, 14, 14A; S.S.W. Nos. 26, 30, 31, 201. For lower centrals, laterals and small bicuspid: Ivory Nos. 1, 0 and 00. For molar gingival: Ivory No. 16. For cuspid and bicuspid gingival: Ferrier No. 212; and for central and lateral gingival: Ivory No. 9. The absolute minimum he suggests would be S.S.W. No. 26. Ivory Nos. 9 and 16, and Ferrier No. 212.

The use of the Heavy rubber dam is recommended in that it is far easier to turn it under the free margin of the gingiva; this is done with a beaver-tail bur-nisher while the assistant is directing air from the air syringe to dry the necks of the teeth.

Stressing that the size of the hole punched as being uniform for each particular tooth, and in line with the arch of the individual, he mentioned, however, that where gingival restorations are being attempted, the hole should be larger than normally used and slightly buccal to its normal position. Dr. Cameron ably demonstrated his technique by the use of colour transparencies.

The president, Dr. Louis Rosen was in the chair and introduced the speakers, who were thanked by Dr. I. N. Pesner.

R.F.H.

BRITISH COMMONWEALTH NEWS

INDIA

Medical Care in India.—Any American country doctor who thinks he has problems would feel greatly relieved after a talk with Col. William A. Noble of the Salvation Army . . . Colonel Noble has spent the last thirty years in mission hospitals run by the Army in India . . . He described November 24 the almost complete lack of sanitary facilities, the high incidence of many diseases, and the oftentimes conflicting systems of medicine practised in parts of that country. One of the problems he encounters

is the reliance of many people in outlying areas on the local "doctors" who practise an "ayurvedic" system of medicine. In this, a combination of potions, incantations and "mundrums" or charms is used to cure any and all ills. The trouble, Colonel Noble said, is that many of these practitioners have no knowledge of pharmacy, and often the damage done by their cures complicates the work that is eventually undertaken in the mission hospitals such as the one in Travancore.—N.Y. Times.

GREAT BRITAIN

Payments Made to Dentists: According to the report on Civil Appropriations by the Comptroller and Auditor-General as published in the Daily Telegraph and Morning Post of Glasgow, Scotland, January 29, 1951, the payments made to

dentists in 1949 amounted to £46,585,022. Of 5,579 single-handed dentists employed, 4190 had gross payments up to £6,000 authorized; 1321 had gross payments between £6,000 and £12,000; 66 payments between £12,000 and £18,000 and two from £18,000 to £19,200.

GENERAL NEWS

Total Socialization: Dr. M. R. Wright, Fergus Falls, Minnesota has this to say about Total Socialization in the January issue of North West Dentistry:

"The subject here briefly presented, is one which has given me much concern and is one by which each of us is vitally affected; namely, the tendency toward the complete socialization of the United States Government. I shall make no attempt to prove that this tendency is present, for we are fully aware of the possibility of the socialization of the medical and dental professions. We may not be aware that the danger of socialization of other businesses and industries is as real a danger as the socialization of our own profession.

"The real understanding of what goes on in Washington comes with the recognition that the same underlying factors which blossomed out in the form of labour legislation, tax legislation, and Federal lending and spending, all have much the same origin. They arise from a central idea, which seems to be growing stronger in the nation's capital, that our free enterprise system is not adequate for the people of this country, and that it is the proper function of the Federal Government to displace this system bit by bit over an ever-widening area.

"The insidious feature of this stealthy eroding trend toward a centralized federal monopoly over all political and economic controls is the very desirability of some of the objectives which are intended to be accomplished. No one can quarrel with Public Health. No one will argue against Public Education. No one will dispute the right and the need of the public for a reasonable measure of social security. What, then, can we do?

"Dentistry, as practised today, is an example of free enterprise. It is a one-man business. What can one man do? Let me suggest six ways in which one man might help to preserve the American system.

"1. He must be informed!!! He must educate himself in the economics of the American system.

"2. He must recognize that many of the proposals for reforming the Amer-

ican economic system stem from real problems.

"3. He must support that which is right and oppose that which is wrong.

"4. He must spread the story of the American system in simple terms which anyone can understand and accept.

"5. He must take a personal interest in the government and implement his interest by personal action.

"6. He must truly deserve the confidence of the people by never losing faith in the final outcome of his efforts. In other words, he must be honest.

"The entire question evolves into a careful inspection of the methods employed by the so-called geniuses in Washington who so glibly promise to solve all our problems by advocating seemingly favourable legislation which may, by the very methods employed, work to the detriment of our free enterprise system."

Direct Resinous Filling Materials:

Temperature Rise During Polymerization:—Drs. Robert B. Wolcott, D.D.S., George C. Paffenbarger, D.D.S., and Iri C. Schoonover, Ph.D., Washington, D.C. state in the March Journal of the A.D.A. that polymerization of the direct resinous filling materials proceeds at room and mouth temperature with an evolution of heat. The peak temperature and time of this peak depend upon brand, volume, curing temperature, polymer-monomer ratio and the presence of small quantities of water in the monomer. Tests run on these variations showed that:

1. Slower curing resins produced lower peaks and faster curing resins presented higher peaks.

2. Volumes which are required to construct large jacket crowns of the more rapid curing resins can produce peak temperatures as high as 100° C. (212° F.) in the resin near the dentine-resin junction. However, if approximately 2 mm. of dentine surround the dental pulp these temperature peaks may be reduced to the vicinity of 56° C. (133° F.) in the pulp chamber. Temperature rises of the smaller restorations are of no clinical consequence.

3. Resins cured at body temperature

produce higher peak temperatures and reach them more rapidly than those cured at room temperature.

4. The addition of 1 per cent distilled water to the monomer will produce a greater temperature rise and a more rapid rate of polymerization.

5. The effect of varying the polymer-monomer ratio is to produce a somewhat faster rate of polymerization with the thick mixes and a slower rate with the thin mixes. The peak temperatures appear to remain nearly constant.

Some persons who require **extraction of all their teeth** should be psychologically conditioned to toothlessness, Dr. Muller M. DeVan of Philadelphia, stated in *The Journal of the American Dental Association*. He recommended that partial dentures be used temporarily for these individuals.

Dr. DeVan, chairman of the prosthetic department of the School of Dentistry, University of Pennsylvania, said it may be to a patient's advantage to have only a few teeth removed at one time.

"Many patients must be made ready for the loss of all their teeth," he said. "We must inject the element of time in destroying the mechanism — the same element nature employs in building the masticatory machine."

In advising that it is sometimes wise to put in partial dentures temporarily, Dr. DeVan said:

"Partial dentures that subsequently may be converted to complete dentures provide for the patients' probational periods that are both thoughtful and humane. They ease the physical and psychological ordeal involved in the transition from natural to artificial teeth."

11,000 Dentists Attend Chicago Midwinter Meeting:—Nearly 11,000 dentists and guests attended the 86th midwinter meeting of the Chicago Dental Society February 5-8, for a program presented by 180 dentists who participated in 46 essays, 103 clinics, and 18 question and answer sessions. The program also included 28 motion pictures, 25 scientific, health and educational exhibits, and 130 technical exhibits.

Three States May Register Dental Laboratories:—Bills requiring registration of dental laboratories and dental technicians have been introduced into Massachusetts, Connecticut and Oregon State legislatures and it is understood that similar legislation is to be introduced in New Jersey.

The American Dental Association reaffirmed its opposition to registration or licensure of dental laboratories and den-

tal laboratory technicians at the annual meeting last November.

A.D.A. Membership at All-Time High:—Total membership in the A.D.A. reached an all-time high of 76,726 as of November 30, 1950. This represents an increase of 1,459 members over November 30, 1949. Active members totalled 68,016 (up 257), student members 8,449 (up 1,244), affiliated members 258 (down 42), associate members 3 (no change).

Ammoniated Dentifrices:—Kerr and Kesel report in the February issue of the *Journal of the A.D.A.* as to their studies on the use of an ammoniated dentifrice as follows:

Our original studies were conducted on adults who brushed their teeth immediately after eating and who supplemented the dentifrice with an ammoniated mouth rinse. Further investigation would be desirable to determine whether the trends noted in this study become more significant under different conditions governing the use of the dentifrice, and with more exact methods for measuring caries activity than are now generally employed.

The results of this study show a trend which indicated the usefulness both of good oral hygiene and of ammoniated dentifrices.

Terramycin:—The Mayo Clinic reports in its January 31, 1951 *Proceedings* that studies among 68 patients who had various types of intestinal lesions requiring surgical treatment indicate that as an antibacterial agent on intestinal flora terramycin is as effective as aureomycin.

For preoperative intestinal antisepsis it is recommended that terramycin be employed orally in the same doses employed for aureomycin; that is, 750 mg. given four times daily for three to three and a half days.

At the Fones School of Dental Hygiene in Connecticut sixty-three students are enrolled. Their instruction will cover the following:—Examination and Charting; Sterilization and Chair Assisting; Prophylactic Treatments; Group Fluorine Treatments; Observation and Teaching Public School Dental Education Methods; and Organizing Group Student Projects.

Public demand for dental health services has increased nearly 50 per cent in the past 20 years in the U.S.A., *The Journal of the American Dental Association* has declared editorially.

During 1949, an average of 634 persons were treated by each dentist as compared with an average of 429 individuals in 1929, the editorial said.

The Association's Bureau of Economic Research and Statistics found that 60

million persons, or 40 per cent of the population, obtained dental treatment in 1949.

Twenty years before, it was estimated that only 20 to 25 per cent of the population sought dental treatment.

"It is apparent . . . that there has been a tremendous upsurge in both dental demand and services rendered during the last two decades," the editorial said.

The increase could not be attributed either to increased prosperity or to the greater number of dentists, the editorial pointed out, since the average family was relatively as prosperous in the twenties as it is today and the ratio of dentists to population has remained virtually unchanged.

"The answer more rightly lies in the effective dental health education activities of the profession and others interested in raising the nation's health standards," it asserted.

Experiments With Sugar at Meals:—

In an experiment carried out by the Swedish Medical Board a group of adults living in an institution on a controlled, well-balanced diet were given with their meals nearly three times the average per capita consumption of sugar in Sweden, without any apparent effect on the incidence of caries.

On the other hand, it was found in another similar experimental group that the same amount of sugar when given half in meals and half in the form of sweets between meals resulted in an increase of caries in two-thirds of the individuals comprised in the groups. Analyses of the saliva of this group showed that the sugar content was high during the greater part of the day.

These results suggest that a large amount of sugar can be consumed without apparent harm to the teeth if it is taken mixed with food and drink at meals.—D. Mag. and Oral Topics.

Effect of Certain Abrasive Materials on Tooth Enamel:—

L. Rush Bailey and Ralph W. Phillips of the Indiana University School of Dentistry, Indianapolis, Ind., reported in the December issue of the *Journal of Dental Research* that the enamel loss as affected by the angle at which the airbrasive nozzle is held should be investigated as well as the influence of carbon dioxide pressure and rate of flow of abrasive.

The data obtained indicate the general loss to be much greater with the airbrasive than with flour of pumice or fine pumice. This enamel loss, however, may not be of practical significance when the nozzle is not held close to the tooth surface and the application time is not excessive. The luster of the tooth is

greatly lowered by the airbrasive with only a slight effect induced with flour or fine pumice. The type of surface produced by the airbrasive is different from that produced by pumice, but in all cases the original luster can be restored within 10 seconds by use of levigated alumina as a polishing agent which was here employed.

The Effect of Zinc Chloride and Potassium Ferrocyanide as a Caries Prophylaxis:—

Walter J. Pelton, B.S., D.D.S., M.S.P.H. of Wyoming State Department of Public Health, Cheyenne, Wyoming reported on this subject in the December *Journal of Dental Research*. The same dentist made the examinations before and after treatment with no knowledge of the treated quadrants at the time of the concluding dental examinations. The findings indicate that zinc chloride and potassium ferrocyanide are not effective in controlling the incidence of new caries and that therefore the claims for the prophylactic effect of the so-called impregnation technique are not supported.

Honey contains vitamins in highly variable amounts. These have been listed by Milum as follows:

Vitamin A (minute and insignificant amounts).

Vitamin B-complex (several involved in carbohydrate and amino acid metabolism).

B₁—Thiamine (antineuritic factor, antiberiberi).

B₂—Riboflavin or vitamin G (growth and metabolism).

B₆—Pyridoxine (growth and amino acid metabolism).

Biotin (nutrition, some relation to dermatitis).

Folic acid (growth and nutrition).

Nicotinic acid (cure and prevention of pellagra).

Pantothenic acid (growth and metabolism).

Vitamin C—Ascorbic acid (antiscorbutic factor, cure and prevention of scurvy).

The amounts of vitamins are small but we must not lose sight of the fact that they are directly absorbed into the blood stream with the predigested sugars. This direct absorption of honey accounts for the remarkable energy response following its ingestion. There is no waste of vitamins; whatever vitamins the honey contains are completely utilized.

Care should be exercised in our selection of honey because the darker the honey colour, the higher the percentage of mineral content.—Medical Times.

IN MEMORIAM

Walter Earl Willmott of Toronto, Ontario, aged 86, died suddenly on February 16.

An "In Memoriam" notice appeared in the Ontario News Section of the last issue of this Journal.

Gordon Leigh Frawley of Toronto, Ontario, aged 52, died suddenly in his sleep on February 20. Dr. Frawley was graduated from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1920. He practised with his father as an exodontist from graduation and in 1944 was granted a specialist certificate in Dental Oral Surgery.

Dr. Frawley has served organized dentistry for many years. He was President-elect of the Toronto Academy. He served overseas in the Second Great War as an officer in the Engineers; later he was transferred to the Canadian Dental Corps with the rank of Lt.-Colonel. He saw service in Africa, Sicily, Italy and France.

He is survived by his widow, and two daughters.

Marston E. Adams of Magog, Quebec, aged 51, died suddenly on February 4 following a skiing accident.

Dr. Adams was graduated from McGill University in 1920 at the age of 20 and practised for almost 30 years in Magog, Quebec. He was a past mayor of Magog, a Past Master of the Lake Memphremagog Masonic Lodge, the first president of the Eastern Townships Ski Club, and an enthusiastic amateur photographer. Prior to attending an English school as a child, Dr. Adams spent three years in a French school and as a result was completely bilingual.

Dr. Adams is survived by his widow, one daughter, two brothers and two sisters.

Frederick Hamilton Acheson Baxter of Montreal, Quebec, aged 74, died on February 27.

He was graduated from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1897. He came to practise in Montreal in 1899 and joined the dental staff of McGill University in 1909; he retired from the Faculty in 1943, at which time he was Professor of Operative Dentistry. He was widely known for his work in the field of Root Canal Therapy, long before the term "Endodontia" was accepted.

In his younger days, Dr. Baxter was

one of the best tennis players in the province of Quebec; he was one of the organizing members of the Montreal Badminton and Squash Club and excelled in both games. It was not until but a few years ago that he was forced to give up all three sports. He was also a member of the Kanawaki Golf Club.

He was an Honorary Member of The Montreal Dental Club, and also a Past President.

Dr. Baxter is survived by his widow, and five of his six children; he was the father of three sets of twins, one child dying in infancy; the remaining five are all graduates from McGill University.

F. Christopher Nichol of Montreal, Quebec, aged 74, died on February 12, following a lengthy illness.

Dr. Nichol was graduated from Bishop's College with the degree L.D.S. in 1898. He was forced to retire from practice in 1944.

His late father was a dentist, as was his late brother, Dr. Stewart Nichol, who was one of the charter members of The Montreal Dental Club.

John Albert Fleming of Prescott, Ontario, aged 80, died January 8.

He began practising dentistry in Prescott shortly after graduation from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1895, retiring ten years ago.

As a member of the Masonic Order, he was a Past Master of Central Lodge, Prescott, and Past District Deputy Grand Master of St. Lawrence District and Past Grand Superintendent of St. Lawrence District, RAM. He was prominent in politics and was at one time president of the Grenville Liberal Association.

Dr. Fleming had served as Sunday School Superintendent of St. Andrew's Presbyterian Church for 23 years prior to church union in 1925, and more recently was an adherent of St. Paul's United Church. He was active with the Chamber of Commerce and was president of the Prescott Literary Club for many years.

Dr. Fleming is survived by one brother and a sister.

John R. Will of Brantford, Ontario, died suddenly February 14, the day of his wife's burial.

Dr. Will is survived by two sons.

IN MEMORIAM

Carlisle Purdon of Estevan, Saskatchewan, aged 64, died early in March. He was graduated from the Dental School of the Royal College of Dental Surgeons of Ontario in 1914. He set up practice in Estevan where he remained until 1948 when ill health forced him to retire.

He was a charter member of the Estevan Rotary Club and a member of the Masonic Order and the Shriners. Recently he was given his 33-year jewel from the Oddfellows Lodge and also a 25-year jewel from the Elks Lodge.

Active in sporting circles, he was President of the Baseball Club for some years and a park in Estevan was named in his honour. His contribution to the life of this district was considerable and will be remembered fondly for a long time.

Lorne Haselton

Gordon Conant Caldwell, of Belleville, Ontario, aged 62, died suddenly December 29.

He received his D.D.S. degree from the Chicago College of Dental Surgery in 1914. In 1921, he received his L.D.S. from the College of Dentistry of the Royal College of Dental Surgeons of Ontario. He practised in Saskatchewan from 1914 to 1929, and in Ontario, from 1929 up to the time of his death.

He served in the C.A.D.C. as a Captain from 1918 to 1920, and was a part-time dentist in the Ontario School for the Deaf, in Belleville, Ontario, from 1939-1940.

Dr. Caldwell is survived by one brother.

Theodore Clark Trigger of St. Thomas, Ontario, aged 85, died on February 24.

Dr. Trigger was graduated from Trinity University and the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1892. He conducted his dental practice from graduation until 1942 in St. Thomas. Dr. Trigger was a past president of Elgin County Dental Association; a member of the International Congress on School Hygiene and a member of the International Dental Congress. He was a member of Knights of Pythias, the Canadian Foresters and of the Canadian Authors' Association.

Howard Maxwell Corlett of Toronto, Ontario, aged 48, died on January 19.

He was graduated from the Faculty of Dentistry, University of Toronto in

1928. In 1931 he was granted his B. Sc. (Dent.) He had always practised in Toronto until he became ill in January 1949. He was a councillor of the North Toronto Dental Association 1938-39.

It is most regrettable to record that Mrs. Corlett's death followed that of her husband within a few days.

Survivors are one son and one daughter.

Arthur Ernest Little of Owen Sound, Ontario, aged 78, died on February 1.

Dr. Little was graduated from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1897. He conducted a dental practice in Owen Sound, Powassan and Flesherton. In 1947 he was given an honorary membership in the Royal College of Dental Surgeons of Ontario. He is survived by his widow and one son.

Bruce Nicholls of Toronto, Ontario, died on February 23. Dr. Nicholls was graduated from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1894 and practised in Toronto until his retirement in 1947. He was given an honorary membership in the Royal College of Dental Surgeons in 1944.

Robert Riddell Elliott, of Dutton, Ontario, aged 76, died December 30.

He was graduated from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1898, and practised in Preston, Ontario, Aylmer, Mitchell and Dutton, until he retired in October 1945. He was a member of the I.O.O.F. and the Masonic Order.

Dr. Elliott is survived by his widow and two sons.

Allan Ross Montgomery of Winnipeg, Manitoba, aged 55, died March 3. He was graduated from the Dental College of the Royal College of Dental Surgeons of Ontario and since then practised in Winnipeg.

He served overseas during the First World War. He was a member of St. James Kiwanis Club and St. John's Lodge A.F. and A.M.

Dr. Montgomery is survived by a son, six brothers and a sister.

Le Journal

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Savez-vous conduire vos affaires?*

par J. WILLIAM ABRAHAM, D.D.S., Montréal

La conduite des affaires dans un cabinet dentaire joue un rôle important dans la réussite d'un professionnel, rôle aussi primordial que celui joué par son habileté professionnelle. Aussi est-il nécessaire que l'étudiant aussi bien que le praticien connaisse les rudiments d'une organisation saine de ses affaires.

Souvenons-nous toujours que la dentisterie est d'abord une profession qui s'occupe de la santé des populations et qu'ensuite elle est destinée à faire vivre son homme. Quiconque néglige l'un ou l'autre de ses aspects finira, sans aucun doute, par être désillusionné et voué à une faillite.

L'image qu'on se fait de l'exercice de la profession dentaire représente un dentiste près de son fauteuil avec un patient qui a besoin de ses services. Le dentiste doit mettre tout en oeuvre pour protéger avec religion ses pouvoirs naturels, son habileté et ses connaissances, son temps et son énergie, son audace et ses capacités à goûter les succès personnels et professionnels. Tout dentiste a une ambition légitime; il est aussi limité dans ses activités par une foule de facteurs; il a besoin de changement et de récréation; il a une famille, des voisins, des parents et un rôle à jouer dans ces champs d'action. Le dentiste doit participer à toutes ces activités différentes et par le fait même reposantes. Pour ce faire, il faut qu'il sache combiner ses devoirs professionnels et ses obliga-

tions sociales; il faut qu'il équilibre son existence, en dosant la routine de son bureau en rapport avec ses fonctions sociales. Il doit régler sa vie pour combiner travail et distractions, raccourcir ses heures de travail pour en consacrer à sa famille, tout en s'assurant une stabilité financière, qui lui permette de rencontrer ses obligations et de se créer une sécurité pour ses vieux jours. Comme on le voit, il est assez difficile de rester dans un juste milieu et de ne pas consacrer plus de temps et plus d'énergie qu'il n'en faut dans une direction ou une autre.

Le mode de vie du 20^e siècle est assez compliqué. Nous sommes à mi-chemin dans une période de transition où rien n'est stable, où tout change. La seule chose certaine c'est que rien n'est certain. Ce changement, bien entendu, crée une atmosphère d'incertitude; nous vivons dans une ambiance de tension montante. Nous ne sommes pas tout à fait aussi rapides que nous le désirerions à nous approprier certaines choses; nous sommes sensibles, douteux et nous sommes pressés. Notre système nerveux est pourtant entraîné, constamment sur le qui-vive.

Depuis la dernière décade, les dentistes ont été lancés dans une production extraordinaire d'obturations, de ponts, de dentiers, etc. L'activité des services dentaires de ce genre a porté quelqu'un à dire: "Nous sommes sur un carroussel et nous ne pouvons plus y descendre." Peut-

*Causerie présentée aux membres de la Société Dentaire de Montréal, le 19 décembre 1950.

être serait-il bon de sauter hors de cette chaîne sans fin, marcher à son côté et de laisser cet engin filer à toute allure en méditant sur la question: "Y a-t-il un autre moyen d'agir? Un autre moyen de mener ma pratique et ma vie?"

Chacun doit s'arrêter et regarder bien en face ses propres problèmes de pratique. Tous ces problèmes diffèrent quelque peu, mais au fond, ils sont tous les mêmes.

Ce soir, il me sera peut-être possible de solutionner pour vous quelques-uns de ces problèmes individuels, mais à cause du temps à ma disposition, je me bornerai à discuter certaines situations difficiles qui surviennent dans l'exercice de notre profession. J'espère vous être utile en vous exposant certains principes d'administration des affaires d'un dentiste.

Ces principes n'ont rien à faire avec votre habileté professionnelle.

Votre cabinet a besoin d'un personnel adéquat. Chaque bureau requiert les services d'une garde, ou d'une assistante, peut-être de deux. D'autres confrères s'adjoignent encore les services d'un technicien et même d'une hygiéniste. Le personnel, bien entendu, est basé sur le genre de clientèle et sur la façon dont l'organisation est effectuée.

Une assistante est indispensable dans un cabinet dentaire et doit posséder les qualités d'une gérante de bureau. Trop de dentistes, aujourd'hui, essaient, non seulement de procurer à leurs patients les meilleurs services professionnels dont ils sont capables, mais en outre ils perdent une somme de temps précieuse, en accomplissant une foule de tâches qu'une subalterne peut faire pour eux: comptabilité, prise des rendez-vous, ménage, nettoyage des instruments, etc., etc. Des statistiques compilées sur le rendement des bureaux, où sont utilisés les services d'une assistante en comparaison d'autres où le dentiste travaille seul, montrent que ceux-là rapportent des honoraires plus élevés dans une proportion de 8 contre 3.

La personne à votre emploi doit être gérante de bureau. Elle doit avoir le sens de l'organisation et savoir contrôler et prendre charge des affaires. Certains

dentistes sont habitués à tout conduire eux-mêmes; ils ne peuvent se décider à confier d'importantes responsabilités à leur garde. Ces responsabilités, pourtant, sont du domaine de l'assistante et font partie de ses fonctions. L'embauchage d'une personne, à qui on ne veut rien confier, s'avère inutile dans un bureau achalandé. Une assistante traitée de cette façon se décourage, se sent inutile et ne peut prendre de responsabilités. Elle n'apprend rien et ne fait aucun progrès. Comment voulez-vous qu'elle vous aide, si vous ne lui dites pas ce que vous attendez d'elle?

Une assistante compétente, qui dirige le bureau, est responsable de sa situation. Elle est intéressée, elle sait ce qu'elle doit faire et n'a pas besoin qu'on le lui dise. Vous lui avez montré une fois et elle est capable d'améliorer son rendement. Elle organise sa besogne et ne travaille plus pour son patron, mais devient sa collaboratrice. La compréhension et la mise en pratique d'un tel système, où chacun accomplit les tâches qui lui sont propres, confère à un cabinet dentaire une efficacité et un rendement appréciable pour le personnel du bureau et pour les patients, qui fréquentent ce bureau.

La garde que vous emploierez doit aussi posséder des qualités personnelles, au même titre que le dentiste qui réussit. Son apparence doit être soignée; elles doivent être enthousiastes, avoir de l'initiative, être de bonne humeur et remplies de tact; elles doivent être sympathiques et bonnes. Elles doivent être patientes, avoir une bonne santé et être habiles en affaires.

Maintenant que dire de votre bureau? Je ne vous importunerai pas sur le choix de la localité; que vous soyez dans un local privé, ou dans un édifice, peu importe. Il faut veiller aux facilités de stationnement, à un accès commode, à une entrée invitante, etc. Pour la plupart, vous êtes installés et cette question regarde surtout les étudiants. Mais que pensez-vous de votre bureau actuel? Lorsqu'un patient vous est référé, que voit-il, en premier lieu, lorsqu'il s'approche de votre bureau? Une enseigne visible, un escalier et un corridor propres? Quand ce nouveau patient, qui est votre hôte, il ne

faut pas l'oublier, ouvre la porte de la salle d'attente et y entre, qu'elle est sa première impression? Rappelez-vous que la première impression est celle qui dure le plus longtemps. Quatre-vingt-cinq pour cent des connaissances acquises le sont par le sens de la vue, sept pour cent par l'ouïe, et le reste par d'autres sens particuliers. Si le premier regard tombe sur des murs sombres, sur des tapis usés et effrangés, des fenêtres, des draperies ou des stores malpropres, sur de vieilles revues déchirées, sa première impression n'est pas des meilleures. Sa confiance est ébranlée, il se met à douter de la qualité des traitements qu'il recevra, et cette conviction est plus profonde qu'on le croit. Mais si le patient pénètre dans un bureau propre, bien aéré, soigné, meublé simplement, joliment décoré, son impression est toute autre. Il entre dans le cabinet de consultation, bien disposé et sait qu'il a affaire à un homme d'ordre et propre.

Si la première impression est quelconque, il vous faudra alors vous servir d'une psychologie et d'une habileté exceptionnelles pour effacer cette première réaction. Les dentistes et les assistants vivent très près du bureau. Ils ne pensent pas à ces détails. Demandez à votre épouse ou à quelqu'un d'autre de faire la critique sur la disposition et l'apparence des locaux, et écoutez leurs suggestions.

Je ne discuterai pas de l'ameublement ou de l'équipement des autres pièces de votre local. Si la salle d'attente est bien rangée et agréable à l'oeil, on peut conclure que le reste est en rapport.

Je ne crois pas qu'il soit nécessaire de posséder des instruments et un équipement des plus modernes pour réussir. Ce facteur toutefois mérite quelque attention. Economie, oui, mais non à l'extrême. L'acquisition d'un nouvel instrument, contente le dentiste et remonte son moral; l'orgueil de posséder la dernière création, dans ce domaine, donne de l'assurance à son homme. Les patients sont portés à faire des commentaires en de telles occasions. Une clientèle peut diminuer si le progrès des temps modernes n'est pas suivi raisonnablement et cela ne s'applique pas seulement aux changements techniques.

Permettez-moi de discuter, avec vous, le système de fiches ou ce qu'on appelle le système de comptabilité d'un bureau. Cela peut vous paraître élémentaire mais aux yeux de certains individus, le genre des formules et de la papeterie, le système de comptabilité utilisé, sont des indices infaillibles de la personnalité et de la conduite des affaires.

Je ne m'étendrai pas, ce soir, sur le sujet des cartes personnelles, entêtes de lettres, entêtes de factures, cartes de remerciements, etc., mais je traiterai des cartes employées pour chaque patient.

En premier lieu, les cartes de rendez-vous. Elles doivent être remises au patient quand on lui fixe un rendez-vous. Si le rendez-vous est fixé par téléphone, une carte est expédiée par la poste pour confirmer et servir d'aide-mémoire. Vous savez de nos jours, les rendez-vous se fixent longtemps à l'avance. Une carte colorée jaune ou beige, attire l'attention d'avantage et tranche sur les autres paperasses enfouies dans les poches ou les sacs-à-mains des patients.

Les cartes de rappel expédiées aux patients, pour leur rappeler qu'il est temps de visiter leur dentiste, constituent un facteur important dans l'élaboration d'une clientèle. Certains patients ne partageront pas cette idée-là, mais la plupart manifesteront un vif plaisir à recevoir une telle marque d'attention et de prévenance. Cette carte doit être simple et rédigée de façon à rappeler aux patients qu'ils ont eux-mêmes sollicité ce service. Cette procédure exige un petit système de filière mensuel. Je reviendrai sur le sujet des cartes de rappel quand je traiterai du livre de rendez-vous.

Il y a 25 ans, quand plusieurs d'entre nous débutions en clientèle, nous ne portions pas beaucoup d'attention à la rédaction d'un registre. Nous avions rarement l'occasion d'y référer. Aujourd'hui la situation est différente. La loi a ses exigences. Dans le cas de poursuite judiciaire ou au cours d'une discussion, nous ferons valoir nos droits au moyen de preuves écrites: Combien de fois? quand? quelle intervention fut faite? dans quelles circonstances? Voilà autant de ques-

tions auxquelles un registre bien tenu peut répondre rapidement et efficacement.

Actuellement vous avez un partenaire silencieux avec vous. Présentement c'est M. Abbott et il est capable de vous poser toutes les questions du monde.

Le gouvernement acceptait jadis le fait que nous étions des hommes de profession et non des hommes d'affaires ou des comptables. Aujourd'hui, tout est changé; une méconnaissance des affaires ou un désintéressement à manipuler des chiffres, ne sont pas des excuses.

Il n'y a rien de compliqué ou de coûteux à garder un dossier convenable des traitements rendus, des recettes ou des dépenses. Tenus au jour le jour, d'une façon précise, ces dossiers peuvent être compilés rapidement, dans l'espace d'une heure ou à peu près, à la fin de l'année. Ces registres, alors, vous indiquent le travail de l'année et vos chiffres sont prêts pour le Monsieur de l'impôt.

Les fiches d'examen doivent être simples et contenir les renseignements, qui seront utiles au cours du traitement.

Ce n'est pas toujours nécessaire de s'arrêter minutieusement à chaque détail. Le bilan de la journée, renfermant la somme des services rendus, leur évaluation au point de vue honoraires, les argents reçus et déboursés, doit être aussi très simple et être consulté d'un seul coup d'oeil.

En plus de l'assistante, dont je viens de vous parler, quelques confrères embauchent d'autres personnes comme auxiliaires, telles qu'une hygiéniste et un technicien. Quant à l'hygiéniste dentaire, nous n'en parlerons pas. Cette question ne nous préoccupe pas pour le moment, bien que cela puisse nous intéresser plus tard.

Certains cabinets dentaires se sont développés à un tel point, qu'ils nécessitent l'emploi d'un technicien à temps complet. D'autres bureaux, disons trois ou quatre, peuvent utiliser conjointement les services d'un technicien. Cette façon de faire est excellente. Nous dépendons presque tous des laboratoires commerciaux. Tout ça est très bien, mais il arrive souvent que des dentistes prennent les empreintes et le laboratoire complète tout le travail. Les pa-

tients sont parfois référés aux laboratoires pour les corrections, le choix des dents et pour les séances d'essayage. Certains laboratoires n'approuvent pas ce comportement, mais dans la crainte de perdre des clients, ils accèdent à ces désirs des dentistes.

Pour obvier à cette situation, qui peut devenir déplorable, le dentiste en tant que professionnel, doit s'intéresser davantage au laboratoire commercial et faire en sorte que ses travaux soient exécutés comme il l'entend, avec des spécifications bien précises. Une autre solution résiderait dans l'élaboration du travail mécanique par le dentiste lui-même.

Les laboratoires dans l'Etat de Connecticut sont maintenant licenciés pour exécuter le travail eux-mêmes. L'intermédiaire, c'est-à-dire le dentiste, a tout simplement été mis de côté.

Il est urgent que la profession dentaire approfondisse très sérieusement ce problème des laboratoires commerciaux et trouve un remède qui soit à la satisfaction du public, des gouvernements, de la profession dentaire et des techniciens. Il ne faut pas oublier que les techniciens jouent un rôle important dans les services que nous rendons au public et, de ce fait, qu'ils exercent une emprise considérable sur le rendement de notre profession. Avez-vous songé déjà à la situation qui nous serait faite, si les techniciens, une bonne journée, se décidaient en faveur d'une grève? Pensons-y bien.

J'aimerais pouvoir vous entretenir de bien d'autres sujets, mais le temps ne me le permet pas.

J'ai mentionné les honoraires et la façon de les percevoir. Je ne crois pas qu'il soit possible d'établir une liste d'honoraires; susceptible de convenir à tous. Chaque localité se développe dans des circonstances différentes et fait face à des problèmes différents. Ayez des honoraires équitables pour vous et pour vos patients.

L'un des plus grands obstacles à la détermination des honoraires et du revenu minimum, est l'ignorance du coût exact de l'administration. La plupart du temps, le dentiste ne connaît pas d'une façon

bien précise, ses "frais fixes" et le sens de cette expression n'est souvent pas compris. Je vous ai indiqué, ce soir, comment connaître ces "frais fixes" et j'ai appuyé sur le fait qu'ils représentent cinquante pour cent de vos revenus bruts. Il vous est facile de savoir vos revenus bruts chaque année. Divisez ce chiffre par le nombre d'heures consacrées au travail et, vous obtiendrez approximativement le montant que vous devez charger de l'heure pour faire vos frais. N'oubliez pas que vous ne pouvez pas toujours compter sur les cas payants et traiter les autres avec une perte. Un jour viendra, où ces cas lucratifs disparaîtront.

Il vaut mieux que je ne traite pas en détail du recouvrement des honoraires pour l'instant. Laissez-moi vous dire, en passant, qu'il vous sera peut-être parfois difficile de percevoir vos honoraires. Cette perception sera plus facile si, avant de commencer vos traitements, vous vous êtes entendus avec vos patients sur le coût approximatif et sur le mode de paiement. Les patients qui s'adressent à vous craignent la douleur, il est vrai, mais aussi craignent de se faire égorger par des prix trop élevés. Quand votre travail est terminé, il arrivera parfois que le montant de leur dette sera moins considérable que ce qu'ils avaient prévu.

En terminant, permettez-moi de vous donner mon opinion sincère au sujet

d'une clientèle: celle-ci peut continuer d'augmenter et se maintenir mais à la seule condition de s'alimenter de nouveaux patients. La plupart de ces nouveaux patients doivent être de la jeune génération. Les vieux patients meurent ou s'en vont chez d'autres dentistes.

De nos jours, les parents sont plus conscients: de l'importance de faire traiter les dents de leurs enfants. Il ne faut pas déprécier ces soins, et leur accorder une importance secondaire, j'allais dire "temporaire." Une telle attitude détériore vite une clientèle.

Il n'y a aucune raison pour que les patients s'attendent à ce que vous les traitiez pour des honoraires de "rabais." Les parents apprécieront vos services à leur pleine valeur, si vous êtes convaincus de leur importance. Aucun motif ne peut justifier une baisse des honoraires, quand il s'agit d'enfants. Mais rappelez-vous que le jeune patient d'aujourd'hui est le patient adulte de demain.

Une clientèle stable s'appuie sur ces conceptions et, ainsi comprise, elle se maintiendra même au cours de périodes moins prospères. Les besoins de l'enfant passent en premier lieu, les parents dussent-ils se priver.

Ces considérations pourraient nous entraîner loin; aussi pour ne pas prolonger cet entretien, je termine ici cette communication.

Surveillons notre coeur

Quand on lit les statistiques des maladies professionnelles, on s'aperçoit que celles qui déciment ou affaiblissent le plus le corps médical et dentaire sont les affections coronaires. Si cela était déjà trop vrai avant la guerre, que dirons-nous de la période actuelle où chacun est surchargé, où chacun ne sait plus où donner de la tête et où chacun, pour parler plus brutalement, brûle sa vie.

Cette indifférence devant les conséquences de ces inconséquences est dangereuse. Elle fait penser à un automobile qu'on conduit à grande vitesse sur une route où la culbute est certaine dans un délai plus ou moins rapproché. Et pourtant, l'on continue sans réaliser les conséquences de cette insouciance au point de vue familial, professionnel et financier.

A propos d'antibiothérapie*

par PAUL DIONNE, M.D., L.Sc., bactériologiste à l'Hôpital du Sacré-Coeur, de Cartierville

Parmi les nombreux problèmes de bactériologie qui se posent au dentiste il en est un, relativement récent, que je considère d'autant plus digne d'attention qu'il est jugé inexistant par un certain nombre; je veux parler de l'antibiothérapie. L'application empirique, irraisonnée, du traitement par les antibiotiques, est en voie de conduire à des abus graves, sinon irréparables, qui risquent de compromettre la valeur intrinsèque de ces drogues merveilleuses.

La cavité buccale, je ne vous l'apprends pas, constitue un véritable réservoir bactérien. Une bouche saine loge approximativement, par centimètre cube, un milliard de bactéries réparties en 15 ou 20 espèces. Il est vrai qu'une forte proportion de ces bactéries sont essentiellement saprophytes, i.e. vivent de déchets organiques, comme les Streptocoques viridans, les Neisseria catarrhalis, les bacilles diphtérimorphes, les Sarcines, les Lactobacilles, certains Spirothètes, mais n'allons pas oublier la fraction importante des bactéries pathogènes, i.e. celles qui vivent de nos cellules vivantes, comme les Streptocoques hémolytiques, les Pneumocoques, certaines associations fuso-spirillaires, les Staphylocoques, les Actinomyces, les Hémophiles, les bacilles funduliformes, etc. Ce dernier groupe peut être tenu en échec par un organisme sain dont le système de défense locale est intact. Mais advienne un affaiblissement de la résistance générale, advienne un traumatisme comme une extraction dentaire, et ce sont les voies sanguine et lymphatique ouvertes à une infection éventuelle. Alors on a recours aux médications anti-infectieuses, soit à titre préventif, soit à titre curatif. Le dentiste, sollicité par la science et la publicité, décide d'une médication antibiotique et c'est très bien. Mais il doit quand même arrêter son choix à l'un des sept ou

huit antibiotiques qui sont aujourd'hui à sa disposition. Or c'est précisément à ce point qu'il ne faut pas laisser le hasard intervenir.

L'antagonisme microbien, qu'on a si ingénieusement mis à profit ces dix dernières années dans la lutte contre les infections, est un phénomène d'observation ancienne dont le génie de Pasteur avait déjà pressenti l'application. Le terme d'antibiotique doit donc être réservé exclusivement aux substances bactériostatiques ou bactéricides issues du métabolisme microbien. Des quelque cinquante produits antibiotiques mis à jour, sept seulement ont franchi l'épreuve clinique: la Tyrothricine, la Bacitracine, la Pénicilline, la Streptomycine, l'Auréomycine, la Chloromycétine et le tout dernier venu, la Terramycine.

La Tyrothricine et la Bacitracine ne son employées que localement, soit en solution aqueuse, soit incorporées à une pastille ou à un onguent; leur administration parentérale s'accompagnerait d'accidents toxiques. Ces deux produits exercent leur action surtout contre les bactéries à Gram+.

Les cinq autres antibiotiques sont utilisés localement et parentéralement.

La Pénicilline est active contre les bactéries à Gram+ et quelques unes à Gram- comme les gonocoques et les méningocoques.

La Streptomycine, au contraire, s'attaque surtout aux bactéries à Gram- et aux bacilles tuberculeux.

L'Auréomycine possède une activité au moins égale à celle de la Pénicilline contre les bactéries à Gram+ et légèrement supérieure à celle-ci contre les bactéries à Gram-. Ajoutons que le rayon d'action de l'Auréomycine s'étend aux Rickettsies et à quelques virus.

La Chloromycétine, en plus d'agir elle

*Travail présenté à la séance médico-dentaire de la Société Dentaire de Montréal, à l'Hôpital du Sacré-Coeur de Cartierville, le 20 février 1951.

aussi contre les Rickettsies et certains virus, est extrêmement efficace contre les bactéries à Gram-.

La Terramycine, si l'on en juge par les premières publications concernant son emploi, nous apparaît douée de propriétés étendues puisqu'elle toucherait les bactéries à Gram+ aussi bien que les bactéries à Gram- et qu'elle serait utile également contre les Rickettsies et certains virus.

Les brèves indications que je viens d'énumérer soulignent l'action *sélective* des antibiotes. Mais ce n'est pas encore aussi simple que cela. Car il faut compter avec la résistance spontanée ou acquise de certaines souches bactériennes. Par exemple, les Staphylocoques, en tant que cocci à Gram+, sont sensibles à la Pénicilline, mais il pourra vous arriver de rencontrer des souches de Staphylocoques qui résisteront à des doses torrentielles de cet antibiotique. L'expérimentation a révélé des faits encore plus étonnants puisque des souches peuvent devenir non seulement résistantes mais dépendantes, i.e. que l'antibiotique, loin de leur être nocif leur devient nécessaire. On comprendra facilement la portée de pareilles observations et l'on voudra bien s'en inspirer dans l'institution et la conduite d'un traitement.

En conclusion, comment prévenir une médication antibiotique inutile et parfois dangereuse? Adoptez comme première règle de ne prescrire des antibiotiques que pour une raison sérieuse et précise. L'usage inconsidéré des ces drogues, surtout dans la bouche, est susceptible de déterminer une résistance bactérienne qui vous laissera peut-être sans recours devant une infection grave. En second lieu, il est nécessaire de connaître la flore microbienne que vous voulez combattre afin de la traiter spécifiquement. Enfin, si le traitement tarde à se montrer efficace, n'hésitez pas à éprouver la sensibilité des microbes en cause vis à vis de l'antibiotique utilisé et, au besoin, à corriger votre thérapeutique.

Vous allez me dire que plusieurs praticiens n'ont pas les facilités de laboratoire que supposent mes recommandations, je le reconnais. Mais dans les cas où vous jugez indispensable l'antibiothérapie, il vaut mieux vous adresser à un laboratoire privé ou à un laboratoire d'Hôpital que de risquer un échec. Dans les autres cas, abstenez-vous tout simplement de recourir aux antibiotiques, vous rendrez ainsi service à votre patient.

L'infatigable dentiste anglais

Nous lisons dans le *Medical World* (22 sept. 1950) l'article suivant: *Les dentistes peuvent travailler un plus grand nombre d'heures*. Dans un rapport qui vient d'être adressé au Ministère de la Santé, il est dit que les dentistes sont capables de travailler incroyablement longtemps et qu'on pense actuellement qu'ils sont aptes à oeuvrer beaucoup plus longtemps aux côtés de leur fauteuil que les 1500 heures annuelles qui leur sont conférées et cela, sans aucun détriment pour leur efficacité.

Les normes des paiements aux dentistes sont basées sur six heures de travail journalier aux côtés du fauteuil. Or, il est démontré au Gouvernement qu'ils ont le pouvoir de fournir journellement un labeur de 12 heures. Non pas, certes, qu'ils le désirent, mais ils y sont acculés par l'afflux du travail et la pression des circonstances. A l'heure actuelle, leurs normes vont donc être abolies. C'est un vieux tour de passe-passe d'un emploi courant dans tous les grands comptoirs et industries du monde entier.

Nouvelles de l'Association

Opinion du Comité des Recherches de l'A.D.C. au sujet de l'addition de fluorures à l'eau des aqueducs.

Des expériences sont en cours, dans quelques cas depuis six ans, pour étudier les effets de l'addition artificielle de fluorures à l'eau des aqueducs. Les résultats de ces recherches ne sont pas encore complétés; toutefois il appert qu'une amélioration s'est manifestée dans la réduction de l'incidence de la carie dentaire — du moins chez les enfants—quand les dents se sont calcifiées après la mise en oeuvre de l'addition des fluorures. Ces constatations préliminaires ont permis à des organismes tels que l'Association Dentaire Américaine, le Service d'Hygiène Dentaire Publique des Etats-Unis, les "State and Territorial Dental Health Directors," et l'Association Américaine des Aqueducs de recommander l'addition de fluorures à l'eau potable des municipalités, quand cette mesure était approuvée par les Sociétés Dentaires locales.

Le Comité des Recherches de l'Association Dentaire Canadienne ne se sent pas autorisé à endosser un tel programme parce qu'aucune des expériences entreprises dans ce but n'est encore complétée. Cependant, à cause de l'approbation quasi-universelle donnée à l'addition des fluorures et parce qu'à date il n'y eut aucune contre-indication à cette mesure, le Comité est d'avis que les agglomérations qui projettent un tel programme devraient être informées qu'elles peuvent s'attendre à une réduction des taux de carie dentaire, en ce faisant. Aussi ces municipalités doivent reconnaître qu'il n'y a encore aucune expérience définie et que les conclusions définitives de ces recherches pourraient changer nos concepts actuels touchant cette question. De plus, cette mesure n'abolira pas totalement la carie dentaire et elle n'est qu'un moyen de prévention ajouté aux autres déjà en existence. Le Ministère de la Santé Nationale et du Bien-Etre Social mène actuellement

des recherches d'envergure sur cette question. Jusqu'à ce que cette expérience et d'autres soient menées à bonne fin, le Comité croit que l'addition de fluorures à l'eau des aqueducs dans le but de diminuer l'incidence de la carie dentaire ne devrait être entreprise qu'à titre d'expérience, qui doit être bien contrôlée.

Le Dr J. P. Whyte nommé représentant pour la Saskatchewan

A une réunion récente, le Collège des Chirurgiens-Dentistes de Saskatchewan a nommé le Dr J. P. Whyte comme son délégué officiel au Bureau des Gouverneurs de l'A.D.C.

Le Dr Whyte remplit la vacance créée par la démission du Dr W. M. Blair.

Réunion d'urgence convoquée à Ottawa.

Une réunion a été convoquée à Ottawa, le 7 mars, pour élaborer une politique au sujet des services d'urgence de la défense civile. Les représentants convoqués dans ce but sont désignés comme faisant partie de "l'organisation des services d'urgence de la défense civile". Cette organisation est constituée des délégués des corps publics suivants: Association Médicale Canadienne, Association Canadienne des Gardes-Malades, Association Dentaire Canadienne, Conseil des Hôpitaux Canadiens, Service des Forces Armées, Ministère des affaires des Vétérans, Ministère de la Santé Nationale et du Bien-Etre Social. De plus, quelques experts seront consultés sur demande.

Le Dr G. Ratté nommé président du comité des finances.

La mort du Dr Carver nécessitait la nomination d'un nouveau président du Comité des Finances. Le Comité des Nominations a choisi le Dr Ratté, de Québec, et ce choix a été confirmé par l'Exécutif.

Bureau national des examinateurs

Des représentants de tous les Collèges provinciaux, à l'exception de celui de l'Ile-du-Prince-Edouard (qui était représenté par le délégué de la Nouvelle-Ecosse) se sont réunis aux quartiers-généraux de l'A.D.C., le 9 février. Les renseignements concernant l'établissement d'un Bureau National des Examineurs,

formulés et approuvés à la dernière réunion générale de l'A.D.C., ont été étudiés avec soin; de plus, des suggestions émanant de représentants de divers Collèges ont été examinées et disséquées avec circonspection. A la fin d'une journée d'étude, les délégués ont adopté à l'unanimité une résolution priant l'Association de procéder à l'incorporation d'un Bureau National de Examineurs.

Etudiants aux études dentaires dans les universités canadiennes

TABLEAU 1

Inscription globale des étudiants dans les Facultés Dentaires du Canada au 2 janvier 1951

Université	1ière	2ième	3ième	4ième	Hommes	Femmes	Total
Dalhousie...	12	12	12	12	48	0	48
McGill....	38	32	37	37	144	1	145
Montréal...	22	54	48	72	196	0	196
Toronto....	73	69	82	152	376	4	380
Alberta....	30	33	26	24	113	1	114
Totaux...	175	200	205	297	877	6	883

TABLEAU 2

Nombre maximum d'étudiants pouvant être acceptés en 1ière année dans les différentes Facultés

Dalhousie.....	12
McGill.....	35
Montréal.....	60
Toronto.....	75
Alberta.....	30
Total.....	212

TABLEAU 3

Résumé des inscriptions dans les Facultés Dentaires du Canada de 1940-1950

Faculté	1940-1941	1941-1942	1942-1943	1943-1944	1944-1945	1945-1946	1946-1947	1947-1948	1948-1949	1949-1950	1950-1951
Dalhousie.....	31	25	25	22	28	27	38	37	41	48	48
McGill.....	58	61	67	67	51	73	111	127	146	147	145
Montréal.....	104	118	139	154	162	184	188	208	224	225	196
Toronto.....	210	232	270	255	264	180	30	435	478	478	380
Alberta.....	51	49	53	24	31	51	108	115	123	136	114
Totaux.....	454	485	554	522	539	518	785	922	1012	1031	883

TABLEAU 4

Nombre total des diplômés durant les années 1940-1950 (inclusivement)

Faculté	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
Dalhousie.....	12	7	8	11	6	8	0	10	9	6	11
McGill.....	13	18	9	26	12	13	5	18	15	34	33
Montréal.....	23	14	31	18	37	30	41	33	38	45	42
Toronto.....	53	45	40	103	61	58	58	75	24	75	168
Alberta.....	13	13	31	8	24	7	0	10	13	20	49
Totaux.....	117	97	120	166	140	116	102	149	99	180	306

Pour l'année 1950

Dalhousie.....	10
McGill.....	35
Montréal.....	42
Toronto.....	135
Alberta.....	49

Hommes

10
35
42
135
49

Femmes

1
1
0
3
0

301

5

TABLEAU 5

Distribution des étudiants par provinces et pays étrangers dans les Facultés Dentaires du Canada au 2 janvier 1951

Faculté	Terre-Neuve	I. du P.-E.	N.-Ecosse	N.-Brunswick	Québec	Ontario	Manitoba	Saskatchewan	Alberta	C.-Britannique	États-Unis	Indes Occidentales	Bermudes	Haiti	Europe	Totaux
Dalhousie.....	3	6	23	15	0	0	0	0	0	0	0	0	0	0	1	48
McGill.....	3	3	3	5	65	9	6	15	3	16	10	8	1	0	0	145
Montréal.....	0	1	2	12	158	6	1	1	0	0	9	0	0	2	4	195
Toronto.....	0	1	1	1	326	15	17	2	16	0	0	0	0	0	0	380
Alberta.....	0	0	1	0	0	0	2	33	64	14	0	0	0	0	0	114
Totaux.....	6	11	30	33	224	341	24	64	69	46	19	8	1	2	5	883

TABLEAU 6

Étudiants additionnels

	Dalhousie	McGill	Montréal	Toronto	Alberta	Totaux
†Diplômés Durant 1950.....	0	0	2	10	0	12
‡Post-scolaires durant 1950.....	0	0	46	185	0	231
Hygiénistes dentaires 1950-51..	0	3	0	25	0	28
Projeté-t-on un cours pour les Hygiénistes Dentaires?.....	Non	Non, pas maintenant	Oui, en Sept. 1951	Oui, incertain	Rien de défini	

† Le mot "diplômé" veut dire qui suit un cours donnant un diplôme.

‡ Le mot "post-scolaire" veut dire qui suit un cours ne donnant pas de diplôme.

La paradentose n'est pas contagieuse

Nous lisons dans le No 44 du 29 octobre 1950 du journal *Die Welt am Sonntag*, paraissant à Hambourg:

Les médecins-dentistes de Niedersachsen ont eu leur congrès à Hanovre. Une longue conférence de presse a eu lieu sous la présidence du Prof. Dr. Siegmund de Münster. A la question de savoir si la paradentose était transmissible, le Prof. Siegmund a répondu:

Vous osez sans danger embrasser une femme souffrant de paradentose! Les causes de cette maladie sont des troubles vasculaires neurotrophiques, qui permettraient à certains micro-organismes de proliférer. Cette inflammation n'est donc pas transmissible chez des individus possédant une muqueuse gingivo-buccale saine, où les bactéries n'ont pas la possibilité de se développer. La paradentose ne serait vraiment guérissable que lorsqu'elle est traitée dès le début des premiers symptômes.

Chiffres Statistiques au sujet du Nombre des Dentistes au Canada

tels que rapportés par les registraires provinciaux en janvier 1951

TABLEAU 1

Chiffres statistiques au sujet du nombre des dentistes, au Canada tels que rapportés par les registraires provinciaux en janvier 1951

Province	Nombre de dentistes rapporté			Durant 1950			Augmen- tation ou diminution totale 1938*	Proportion du nombre des dentistes en rapport avec le chiffre de la population
	Hommes	Femmes	Totaux	Morts	Retraites	Additions		
T.-Neuve.....	21	0	21	0	0	3	+3	1/16905
I. du P.-E.....	30	0	30	0	0	1	même	1/3200
N.-E.....	191	1	192	3	0	8	+23	1/3427
N.-B.....	103	0	106	4	0	5	-4	1/4924
Québec.....	1142	5	1147	7	12	58	+273	1/3466
Ontario.....	2081	22	2103	29	11	156	+171	1/2146
Manitoba.....	258	1	259	2	2	10	+8	1/3069
Sask.....	214	3	217	2	5	21	+7	1/4038
Alberta.....	320	1	321	1	0	38	+85	1/2788
C.-B.....	512	4	516	7	17	48	+154	1/2205
Totaux.....	4875	37	4912	55	47	318	+720	1/2819

Les chiffres des populations utilisés sont ceux publiés par le Bureau Fédéral de la Statistique pour juin 1950.

*Les chiffres des augmentations ou des diminutions comparés à ceux de l'année d'avant-guerre 1938 sont alignés pour fins de comparaison.

TABLEAU 2

Migration des dentistes Canadiens durant 1950

A:	T.-N.	I. du P.-E.	N.-E.	N.-B.	Qué.	Ont.	Man.	Sask.	Alta.	C.-B.	E.-U.	T.N.-O.	Chine	N.-Z.
DE:														
T.-N.....	0	0	0	0	0	0	0	0	0	0	0	1	0	0
I. du P.-E.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N.-E.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N.-B.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Qué.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ont.....	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Man.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sask.....	0	0	0	0	0	0	0	0	0	1	3	0	0	0
Alta.....	0	0	0	0	0	0	0	0	0	4	0	0	0	0
C.-B.....	0	0	0	0	0	0	0	0	0	0	2	0	0	0

TABLEAU 3

Nombre de Spécialistes, par Province
(Seuls les Dentistes, qui consacrent tout leur temps à l'exercice de leur spécialité)

	T.-N.	I. du P.-E.	N.-E.	N.-B.	Qué.	Ont.	Man.	Sask.	Alta.	C.-B.	Total
Chirurgie											
(Exodontie)....	0	0	1	0	3	24	3	0	2	2	35
Orthodontie.....	0	0	1	0	14	28	2	0	2	9	56
Périodontie.....	0	0	0	0	2	13	1	0	1	2	19
Pédodontie.....	0	0	0	0	2	2	0	0	0	3	7
Total.....	0	0	2	0	21	67	6	0	5	16	117

TABLEAU 4

Nombre de Dentistes employés dans des services de santé, dans les Provinces
jusqu'en Janvier 1951

	T.-N.	I. du P.-E.	N.-E.	N.-B.	Qué.	Ont.	Man.	Sask.	Alta.	C.-B.	Total
Ecoles Dentaires: (Personnel Enseignant)											
Plein-Temps...	0	0	1	0	9	10	0	0	1	0	21
Demi-Temps...	0	0	0	0	11	7	0	0	6	0	27
Service Hospitalier:											
Plein-Temps...	2	0	0	2	0	21	4	3	5	0	37
Demi-Temps...	0	0	0	0	0	7	0	0	0	0	7
Service Scolaire:											
Plein-Temps...	0	0	1	0	0	13	1	0	3	12	30
Demi-Temps...	0	0	3	2	10	49	3	0	1	0	68
Service D'Hvgiène Publique:											
Plein-Temps...	1	1	4	1	9	10	2	1	0	2	31
Demi-Temps...	0	0	0	0	9	0	0	0	0	0	9

TABLEAU 5

Nombre total des Dentistes employés par le Gouvernement Fédéral en janvier 1951

Ministère des affaires des Vétérans.....	44
Ministère de la Défence Nationale.....	100
Ministère de la Santé Nationale et du Bien-Etre Social..	9
Total.....	153





Photo by Dr. Milton L. Moore, Medicine Hat, Alta.

"ON GUARD!"

Now is the time when deep abiding spiritual resources are invaluable. There is an eloquent passage in one of the essays of William James which seems to me to say something to the present era:

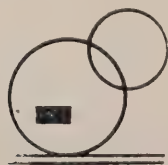
"The turbulent billows of the fretful surface leave the deep parts of the ocean undisturbed, and to him who has a hold on vaster and more permanent realities the hourly vicissitudes of his personal destiny seem relatively insignificant things. The really religious person is accordingly unshakable and full of equanimity, and calmly ready for any duty that the day may bring forth."

—Wilfrid Eggleston in *Saturday Night*.



DR. CHARLES REGINALD SELLER
Montreal, Quebec

Pres. Montreal Dental Club
Graduate McGill University '28
Demonstrator Operative Dentistry,
Faculty of Dentistry,
McGill University,
1929-1951.



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Let's Face The Facts*

by STEWART A. MacGREGOR, D.D.S., F.I.C.D., Toronto, Ontario

WHEN one reviews present-day trends throughout the world it is plainly evident that a great deal of attention is being given to various aspects of social reform. Health schemes of a revolutionary nature have already been adopted in some countries and are being seriously considered for adoption in others. History tells us that most forms of social legislation have been brought about, not because a certain group of people wanted something at the expense of the state, but rather because the need for it had reached a point of saturation. So it is with dental requirements for children. The Lord Tiviot Committee¹ in 1939 in England pointed out that 12.2% of the children slightly over 16 years of age examined, needed false teeth. In New Zealand a number of articles appeared in the *New Zealand Dental Journal*² in 1906 which described "the appalling conditions of the teeth of children 9-14 years of age, more than 60% of whose permanent teeth were beyond saving." In Newfoundland the Medical Survey of Nutrition³ in 1945 pointed out that of 376 persons examined, 41% had lost all or nearly all their teeth at 16 years of age or more. While the sample in Newfoundland was not wholly representative, it does suggest that the dental health of the Newfoundland children is well below average. There are now close to 45 million children

under 18 years of age in the United States. If one uses the estimate given by the Committee on Dental Research of the American College of Dentists⁴ as of 1943, these children are acquiring slightly less than one new cavity every year (0.8 to 0.9 is the general average). This means that the 88,301 dentists in the United States would have to take care of 430 new cavities each year. On the basis of 240 working days per year each dentist would take care of 1.8 cavities per day. It is evident that the increment could be easily taken care of by the present dental population.

BACKLOG

However, when one looks at the backlog, the picture is quite different. A survey of one million children⁵ examined by the Guggenheim Dental Clinic in 1939 gives an estimate of 5.3 fillings and 1.3 extractions as the average need per child. At that rate, the 45,000,000 school-age children in the United States would require 295,000,000 operations. In an attempt to catch up the backlog in the mouths of these children in a year the 88,301 dentists would have to average 13.9 operations per day. If we expected them to keep up with the increment at the same time, their task then in terms of operations would average 15.7 per day. When one considers that the Child Health Services and Paedi-

*Presented before the Academy of Dentistry, Toronto, January 17, 1951.

atric Education Report⁶ of 1949 indicates that the dental offices are averaging 1.5 children per day, it is evident that the task that lies before the dental profession is one that needs a great deal of study.

Then too there is another factor that we must consider, namely the matter of distribution of personnel. Peltin and Wisen⁷ pointed out from the Bureau of the 16 Census, Volume 1, 1940, that in the East South Central district of the United States there was one dentist to 4,780 people. The estimated child population in this area would be 1,434. In order for each child to have two visits a year to the dentist, it would necessitate the dentist seeing 11.7 children a day during a 240 working day year. This, of course, would be utterly impossible in view of his responsibility to the adults of the community as well.

Let us look at this problem from another angle. The average dentist sees approximately 15 patients a day. Hence, if he were to distribute his time fairly on the basis of population, he should give 30% of it to people under 18 years of age and therefore approximately 30% of these appointments should be for children which would work out to 4.5 per day. This compared with the present ratio of 1.5 per day should give us some food for thought.

In Welland, Ontario, September 1946, the Canadian Red Cross Society, Ontario Division, inaugurated an educational program under the direction of a full-time educational officer.⁸ 6,178 children were examined and the estimated number who had ever seen a dentist was one in five, while the estimated need per child was 6.2 operations. At the commencement of the program the dentists were seeing an average of 1.5 children per day. Post-graduate courses were put on for the dentists and the public were stimulated to the point of appreciation of good dental health for their children. Thus today the dentists are averaging approximately 7 children per day. The

incidence of dental caries may not have been reduced to any great extent. Nevertheless, the dental health of the children has been improved through educational means. It is most unfortunate that a similar picture cannot be drawn with respect to our responsibility to our patients concerning oral hygiene, gingival conditions, space maintenance and orthodontic requirements, but at present there is little statistical data on surveys of this type. It would seem that the absence of such in our literature would indicate that in our public health efforts, we have been paying too little attention to this phase of our work.

The above reasoning based on figures taken from United States Surveys may not be absolutely valid or applicable to every district because conditions vary greatly throughout the country. Nevertheless, the conclusions as drawn up do suggest that we have before us a tremendous problem. The figures on the Welland project look bright when thinking of one particular community. But in terms of a national outlook, one cannot help but feel we are too late with too little. We must remember that no one looks into the mouth of the man on the street, the girl behind the desk or the man behind the machine to see if he or she has a full complement of teeth. But day after day in some class-room, a public health officer is examining the teeth of your children and mine. These statistics are being compiled and studied by state and Federal governments. We have only to read the Gruebbel report on the New Zealand Health Scheme, keeping in mind the conditions that probably brought it about, to realize the manner in which these statistics may be used in this country. The time has arrived when the dental profession as a whole must acquaint themselves with statistics from the above and many other similar surveys, and thus give some thought to balancing dental practices on the basis of a proper child-adult ratio. It is so easy for us to become so engrossed in the

[matter of income that we are apt to turn our attention to that phase of our work that is thought to be most remunerative and thus lose sight of our responsibility to the public. When we fail in our responsibility to the public, aroused public opinion will leave the government with only one choice—namely the inauguration of some state plan. It should be made clear, however, that the present child-adult ratio in the average dental office is not entirely a shortcoming of the present practising dentists. Other factors such as the educational and economic standards of the community are contributing causes to the above situation. Whatever be the cause, the situation exists and if we as a profession don't become more interested, some governing body will be forced to take action on the problem.

The educational system of the past placed too much emphasis on mechanics with not enough thought given to prevention. This in turn influenced dental economics and they in turn governed the ratio of appointments for children in the average dental office. These facts linked with the lack of training in dealing with child patients have no doubt also contributed greatly to the fact that on this continent only 1.5 children a day are entering dental offices.

HISTORY OF DENTISTRY

A review of the history of dentistry might help to substantiate this latter statement. Let us consider the trends in teaching in the dental schools of America from the time of the inauguration of the first dental school in 1840 to the present date. The first era in dental teaching existed before that time but consisted mainly of schools of self-instruction. The names of such men as Hayden, Harris and Black can be associated with this school. Hayden and Harris broke away from the medical school in Baltimore⁹, and founded in 1840 the first dental school in America which was established in Baltimore. This second era in dental

teaching, Harris and Hayden hoped would be one in which the techniques in dentistry would play an important part but with some thought given to the medical subjects. They had hoped that the training of dental students under their plan would continue to improve until the dentist became recognized as a specialist of medicine. It was unfortunate, I think, that dentistry did not continue to develop along these lines. In 1870 the dental engine was invented and dental practice became lucrative. This event ushered in the third era in dentistry when in a period of thirty years following 1890 about 80 schools were organized in America¹⁰. Sixty of these institutions survived long enough to be factors in an intense competition for students. By 1900 most of the schools became privately owned institutions and the more mechanical techniques offered in the school, the greater was the influence on the number of applicants to that particular school. Competition for students became an important factor and this influenced the teaching more and more towards the mechanical. Fortunately, however, at that period, there were some schools which were sincerely interested in the progress of the basic science side of dentistry and which did their utmost to further that phase of dentistry in their teaching. "In 1908 the University controlled schools organized the Dental Faculties Association of American Universities¹¹ and although they were fewer in number than the private colleges, their resources and prestige enabled them to assume a leadership which the private schools had to follow." "At that time Sir William Hunter made his famous attack on American dentistry¹², calling attention to the seriousness of oral sepsis." Public opinion was aroused and as a result the next and fourth era in dentistry was ushered in during which the existing dental schools were forced to become dental faculties within Universities. While the mechanical aspect of dentistry still predominated in the

teaching in these faculties, some thought was given to basic sciences and these were added to the curriculum.

In the Curriculum Survey¹³ of 1934 the Committee recommended that the teaching in prosthetic dentistry be 23.33% of the time allotted to all the subjects as compared to 0.00 in dentistry for children. However, some teaching of the latter subject was covered in the department of operative dentistry. In view of what we know today, this lack of emphasis on the preventive field is indeed startling. In 1941 in the same reference it will be noted that the teaching in prosthetic dentistry had reached a point beyond that which was recommended by the Curriculum Survey Committee. The percentage of time now spent was 25.94% an increase of 2.61% and the teaching of dentistry for children had reached a point of 2.33%. While this isn't much of an increase, prosthetic dentistry was so well in advance of the preventive subjects in 1934 that it would seem logical to reduce the time rather than to increase it. At least statistics available today on the care of children would indicate that the preventive subjects, such as paedodontics should be raised to a much higher place in the curriculum. It is useless to consider increasing the number of hours for any school year. The student is already over-burdened in this respect. Therefore, to bring about the balance in the curriculum required for present-day needs, subjects such as prosthetic dentistry must, of necessity, give way to the preventive aspects of the course. While it is true that basic sciences are being taught and adequately too, still little or no effort is made to apply those basic sciences to dental symptoms. The student up to the end of his third year in dental schools delves deeply into the field of basic sciences, but at the end of that time may well wonder why all this biology, embryology, physiology, pathology, biochemistry, organic chemistry, etc. has been taught, because lit-

tle or no attempt has been made to apply them to the actual practice of dentistry. At the end of his third year he is probably in the mood to forget it all and in his last two years to devote his time and energy towards those technical procedures that help to make him a good dental mechanic. There is hope on the horizon, however, for a number of schools have already commenced courses in clinical orientation for each year beginning with the first when the student is shown why he studies pathology, biology etc. To give you one concrete example of this, let us refer to the study of histology. In our paedodontic clinical orientation course, the student is shown that when we get our genetic influence in the initiation stage of the formation of a tooth, we might get either a deficiency in initiation or an excessive initiation. In the first case this might manifest itself in different forms of anodontia. One example given is ectodermic dysplasia. A child born with this condition will in all probability have dry, silky, scant or no hair at all, no sweat glands and probably very few or no teeth. Because of lack of sweat glands this child runs a temperature of 104 to probably 106 all summer long. If he has teeth, they are usually cone shaped. Here we can show the student that in the morpho differentiation stage of the tooth, when the blueprint for the shape of the tooth is being laid down, this genetic influence becomes a factor and the tooth doesn't have its proper shape. On the other hand the student is shown that if we have an excessive initiation, we will in all probability have a child with one or more supernumerary teeth. This teaching procedure brings the student's basic sciences to life and when he reaches his final year of clinical instruction, his thinking becomes much more balanced.

ECONOMICS

In studying the above outline of the evolution of dentistry, one can see

where the mechanical influence has been great throughout the years. Not only has it influenced the student to become a craftsman, anxious to work along purely technical and restorative lines, but it also has governed his thinking in the economic side of his practice. In most schools an effort has been made to teach the student to use a diagnostic chart that will give him sufficient data to make a diagnosis on a broad plane. However, the student graduates, visits a trade house, buys a 2 x 4 trade chart and frequently is content to confine his diagnosis to the mere finding of a hole in a tooth. Seldom is the mouth examined except in an open position. Little thought is given to growth and development, eruption of teeth, occlusion, or gingival conditions. In short, because of his training he becomes a hole finder and a hole filler and later on, probably because of the economic appeal, what is spoken of in England as "an extractor and adapter."

Young dentists commence practice with an idea that a charge can only be made when some mechanical procedure is carried out in the mouth of the patient. Because of this influence over the years, the laity have come to expect that there should be no fee charged unless some material or appliance is used. How often have we heard socially, "You won't be able to make much out of me, Doc, for I never have any holes in my teeth." This thinking on the part of the laity has been brought about because dentists generally have felt the same way about it. Very few dentists charge a fee for what is probably the most important procedure in the care of a patient, namely a proper dental examination. This state of affairs has been a great detriment to the health of our child population. The average dentist sells a mother a bar lower on the basis of the material involved or the special clasps attached and when he examines her child, he has an inferiority complex with respect to charging a proper fee because he has used no ex-

pensive materials in the operation. The mother on the other hand, because of the dentist's educational methods, has little appreciation for dental services that do not involve an expensive material or "lab" fee and hence she is not anxious to pay a decent fee. I can see little hope for the future generation with respect to reaching old age with their natural dentition when within our dental profession there is a system whereby the fee for prosthetic dentistry greatly exceeds the fee charged for any preventive measure.

Probably the above statements can be further illustrated by repeating some personal experiences that I have had in my travels across this continent. In one city when I had finished a post-graduate course, the Dean of the school put on a banquet and invited a glib tongued preacher as guest speaker. His subject was the "World Tomorrow." Because he was speaking to dentists, however, he felt that it would be most appropriate to talk at some length on the Bishop's false teeth. It was evident his thinking associated dentistry principally with that particular form of craftsmanship. I left that city and travelled west, and on a moving observation car was approached by a layman who evidently had considerable tooth trouble. He turned both barrels on me and in no uncertain terms told me what he thought of dentists generally. Nevertheless, he did emphasize the fact that his own dentist was a rather good character and immediately set out to explain why. He said his dentist was taking out all his uppers and his posterior lowers, making an immediate insertion upper denture with new Hue teeth and a bar lower with Roach clasps. Believe it or not this was a layman, with all the technical terms at his finger tips. I must say I scorched, so to speak, under the gaze of all in the coach. No matter how I tried to change the subject he would insist on continuing. He then gave me a financial report on his problem. He said be-

tween then and the next day he had to decide whether he would choose a fee of \$50.00 or a fee of \$53.00. I immediately perked up my ears and became interested. When I asked the reason for this \$3.00 difference, I was told that if the dentist put a clear plate in the upper it would be \$3.00 more. In this instance the layman had been sold his services on a mechanical plane. Because of the dentist's approach to the subject, he was led to believe that the materials, not the services, were what he was paying for. I travelled west and while waiting in the line for luncheon at the Empress Hotel in Victoria, my neighbour in the line became very friendly and when he found out I was a dentist, he immediately snapped his false teeth at me with the statement, "I am all fixed up." Shortly after that I attended a neighbouring theatre in Victoria and came away with a feeling of depression when I found that the picture on the screen that night portrayed the dentist in the usual light of a very weak character. Surely there is something wrong with the profession generally, its teaching or its public relations efforts that will lead to a state of affairs where dentists when portrayed on a screen, television or radio are characterized as nincompoops. These facts are continually staring us in the face and they can only be changed by calling in an architect who will draw up a new set of plans for the teaching of our students. We need also a public relations program which will sell us to the public in a manner that will demand their respect.

TEACHING DENTISTRY FOR CHILDREN

The lack of teaching dentistry for children in our dental schools in the past has had another result. The student graduated with little or no training in the field and on his first day in practice was confronted with the problem of dealing with a two or three year old child. Many clinicians on this continent saw here the need for giving post graduate training. The subject of

child management has appeared on many pages of our current journals. The child specialists became so engrossed in this, that the many other scientific phases of the subject were almost, if not, forgotten. The specialist like myself went up and down the country encouraging general practitioners to set up an expensive playroom, to give a Cook's tour of the office to every child, and to say nothing of spending a half-hour giving the child rides up and down in the chair, and showing him every instrument that went into the mouth. Then too, there were those who advised the featurizing of the giving of Pinocchio models and other trinkets. I personally went one step further by attempting to teach the general practitioners to do sleight of hand. In fact when I look back upon my early days with all its clubs, gifts and gadgets, I wonder if my patients felt they were in the Royal Ontario Museum or the Bronx Zoo. I taught and practised these time-consuming methods until one evening I met socially a father of one of my children and I will remember his remark until my dying day. It was, "You are the fellow who charges me ninety cents for tricks and ten cents for dentistry." That really hurt but I was saved and I immediately set to work to eliminate all time-consuming methods in my office, thus putting the practice of dentistry for children on a basis where I could make a living. Clinicians in dentistry for children were sincere in their efforts and although the time-consuming methods they recommended were not economically sound, they themselves will never be forgotten for their contribution to the field of preventive dentistry. These men, more than the dental schools, were responsible for bringing dentistry for children to the fore. Let us for a moment now summarize some of the points brought out in the above:

.. SUMMARY

1. In the history of dentistry we see an evolution wherein the dental profes-

sion broke away from the medical faculty, thus leaving the dentist a craftsman interested mainly in mechanics. On the other hand, the physician was left almost ignorant of the subject of dentistry. In short the dentist because of his training cannot see the child for the tooth, and the physician because of his training, cannot see the tooth for the child.

2. The mechanical training in dentistry has influenced our thinking in our approach to earning power and this in turn has influenced the laity to appreciate dentistry purely from a materialistic standpoint. Thus as far as dentistry for children is concerned, the dentist has an inferiority complex with respect to charging a decent fee and the patient lacks appreciation because of lack of materials used in the procedure. This state of affairs has left the dentist on the one hand thinking that he cannot make a living out of dentistry for children, and the laity on the other hand lacking appreciation for his services to their child. Thus the children are neglected.
3. Extensive technical training in the University tends to create in the student a desire to consider only that phase of work that requires the use of his hands. Thus he shies away from anything preventive, simply because it doesn't give vent to his technical flare.
4. Up until the present, basic sciences were taught but with little thought given to their application in the practice of dentistry. In the latter years of his course the student has grave doubts as to their value, and thus graduates having forgotten most of them, and with little desire to stop and consider their application.
5. The general practitioner has been led to believe that to make a living in dentistry for children it is necessary to turn one's office into a three-ring circus. This trend in our literature has helped to frighten the gen-

eral practitioner rather than help him.

6. Last but not least, the dentist when portrayed on the radio, screen or the stage is usually ridiculed in some manner. This can only mean that we have somehow failed to sell ourselves to the public in a way that will demand respect.

CONCLUSIONS

In conclusion, I would like to emphasize that this paper is written without any thought of destructive criticism. Dentistry of the past has done much to relieve pain and save people the embarrassment of going without teeth. However, human progress marches on only when children excel their parents. Hence it behooves those of us who practise today, to take a keen interest in the welfare of our profession by weighing well our shortcomings of the past and considering at some length our pattern for the future. The dental schools of America must give more thought and time to stimulating the student to appreciate the value of the care of the child. This can only be accomplished by revamping other phases of the course. Today the student in many dental schools spends hours polishing dentures and in other techniques that he never practices after graduating. Such procedures must give way to work in the preventive field. Teaching institutions must of necessity band every effort to get a better balanced curricula and thus graduate a student with a sound technical training, yet fortified with a scientific outlook that will direct his thinking along preventive lines. However, with the present backlog of treatment staring us in the face, it seems evident that new stresses in training will not help us meet the present demand. Governments may consider auxiliary services. It will be up to you and me to decide whether we want to turn over to technicians that phase of dentistry where most of our basic sciences can be applied, namely dentistry for children, or to utilize

somehow those technicians already trained in the field of dental mechanics. Dentistry on this continent stands at the cross-roads, as they did in New Zealand twenty-five or thirty years ago. We are confronted with the greatest challenge in our history. The future of the young men who come after us will be determined by the way you and I accept this challenge.

Before closing, might I say I feel that our problem today is not so much what the governments intend to do with the dental profession, but rather what we as individual dentists can do to place ourselves in the best light possible in the eyes of the public and governing bodies. In fact our responsibility might be expressed in the following words of Elsie Lincoln Benedict in her poem, "Outside Ourselves":

We live so much inside ourselves, ourselves we never see—

I'd like to get outside myself and take a look at me.

I guess I'd see a lot of things to make me change my style

If I could get outside myself and see myself awhile.

When something's wrong about the house, when something needs repairs

We never try to find it out by hiding under stairs.

We go outside and take a look from ground to roof and back,

We step outside and try to see just what is out of whack.

But when we fail to make a hit with other folks around,

Or when, because our work is poor, misfortunes we have found,

We hide ourselves, and then complain and pout and sometimes fret;

We ought to step outside instead, a better view to get.

We ought to step outside ourselves and see just what is wrong,

To find the places we are weak and try to make them strong.

You live so much inside yourself, yourself you never view

You ought to get outside yourself and take a look at you.

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Résumé

1. L'histoire de la dentisterie nous montre qu'elle s'est détachée, à un moment donné, de la médecine, le dentiste s'adonnant d'avantage à l'aspect mécanique de sa profession. Le médecin, par contre, s'est désintéressé de la dentisterie. En un mot, la formation reçue par le dentiste le porte à examiner les dents sans songer à tout l'organisme et le médecin, de son côté, néglige le fait dentaire au profit de l'ensemble.
2. L'éducation toute mécanique du dentiste a faussé ses concepts quand il s'agit de gagner sa vie, et cet état d'esprit, à son tour, a influencé le public à juger la dentisterie uniquement sous son aspect matériel. Quand il s'agit de pédodontie, le dentiste souffre d'un complexe d'infériorité en face d'honoraires convenables et, de son côté, le patient n'apprécie pas à leur valeur les services reçus parce qu'il n'a pas été impressionné par une mise en scène élaborée. Cette situation fausse porte le dentiste à croire que la pédodontie ne peut faire vivre son homme et, d'autre part,

elle diminue aux yeux du public son appréciation des services rendus aux enfants. Les enfants, en dernier ressort, souffrent de cet état de chose.

3. L'enseignement trop technique donné dans nos universités influence l'étudiant à donner une importance exagérée aux travaux qui nécessitent l'usage de ses mains. Il néglige la place qui devrait être occupée par la prévention, tout simplement parce qu'elle n'a rien de spectaculaire ou de palpable.
4. Jusqu'à présent, les sciences fondamentales étaient enseignées mais leur application immédiate à l'exercice de la dentisterie était presque ignorée. A la fin de ses études, l'étudiant en vient même à douter de leur valeur; il les a oubliées et songe nullement à s'arrêter à considérer leur valeur pratique.
5. Le praticien général croit souvent que la dentisterie infantile le fera vivre en autant qu'il transformera son cabinet en petit cirque. Cette tendance développée par une littérature pseudo-scientifique a effrayé le praticien plus qu'elle ne l'a encouragé.
6. Enfin—et ce facteur est des plus nocifs—la radio, l'écran et le théâtre ont ridiculisé le dentiste de plusieurs façons, en représentant ses activités. Cela veut dire que nous ne nous sommes pas présentés au public d'une manière digne et qui impose le respect.

Jusqu'à maintenant, la profession dentaire a fait beaucoup pour le soulagement de la douleur et le remplacement des dents absentes. Cependant, l'humanité progresse en autant que les enfants dépassent en valeur leurs parents. Il importe que les praticiens contemporains s'intéressent au bien-être de leur profession, en se rendant compte des erreurs du passé et en formulant des projets pour l'avenir. Les écoles dentaires américaines doivent accorder plus d'importance et plus de temps à l'étude de la pédodontie; ainsi l'étudiant appréciera d'avantage la valeur de ses services donnés aux enfants. Cela s'accomplira en faisant une revision et en agençant autrement les autres domaines de l'enseignement.

Case Report

by FRANK SMITH,* D.M.D., Vancouver, B.C.

UNDER nitrous-oxide, oxygen anaesthesia, 9 teeth were extracted. The recovery was uneventful until 36 hours after, a secondary haemorrhage developed in the 1st bicuspid and 3rd molar areas simultaneously and unilaterally on the mandible. Several debridements of the two sockets were performed, oxycel, packs and pressure applied. This was alternated with Tr. Ferric Chloride and Td. Benzoin Co. equal parts, packs and pressure, and again adrenaline packs and pressure. That night the patient was hospitalized and received 3 injections (2 cc's per injection) of cavitan. This had no outward indications of arresting the haemorrhage. Due to the tremendous

loss of blood, 2 pints of blood were administered intravenously and still no arrest of haemorrhage.

Forty-eight hours after the onset of the secondary haemorrhage, I decided to again clean out the sockets and pack as previously, but the patient complained of undue pain; so I administered a 2 cc. Cobefrin mandibular block. Upon awaiting the 1½-3 minutes for anaesthesia, I observed the bleeding had entirely ceased and the patient has not lost any blood since from either socket.

Am I correct in assuming there was enough vaso-constrictor to arrest this undue haemorrhage, or did this just happen? Has anyone ever had a similar experience?

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Undue fatigue, especially when suffered by persons who have passed middle-age, can be most harmful. Therefore, summer vacations should be used to relax and rebuild tired bodies, not to further tear down those bodies.—Health League of Canada.

Hydrocolloid Impressions for Inlays and Fixed Bridges*

by DR. J. MURRAY CAMPBELL, Chatham, Ontario

MY FIRST acquaintance with this method was a clinic given at Detroit by Dr. Carl Sullivan and his group in January 1948. It appealed to me as a useful method if it could be used without getting too much expensive equipment. Acquiring only the essential items I found it could be quite efficient and have used it almost exclusively ever since.

Hydrocolloid has been used a long time as a medium for taking impressions for inlays and fixed bridges. When I first used the method, its possibilities seemed very attractive but, I was not sure whether I would continue to use it. Before investing in expensive equipment it seemed advisable to experiment with what we had in the office. We found a heater that could be adjusted to keep water at 140 degrees. This is quite satisfactory for keeping hydrocolloid materials ready for use.

We have used the Cory Electric 2 heat stove made by the Cory Corporation (Canada) 3300 Dufferin St., Toronto. This appliance is designed for heating water for coffee, etc. We put on it an enamel dish and find that the low heat will maintain a heat of 140 degrees. It saves time to put warm water in the dish to start with, otherwise it takes quite a while to come up to 140 degrees. After trying the method most men will want a unit like the Kerr Heater or Thompson Conditioning Unit.

We use a Kerr thermometer to make sure the temperature remains where it should be. Quite an efficient tempering bath is arranged by a box made of vulcanite set in the heater. The water in the box stays at 125 degrees. In it we place loaded tray a few minutes before placing it in the mouth. My nurse boils the tube of hydrocolloid and the syringes before placing them in the water heater at

140 degrees. Then they are ready when impressions are ready to be taken. Other necessary materials can be kept together and put out when we want to use them.

In order to get a satisfactory impression with hydrocolloid it is necessary to manage the gingival tissues so that you can see the gingival margin of the cavity and the area all around it. We isolate the area with cotton rolls and dry off the tooth. In most cases the gingival tissue can be pushed back enough with pieces of cotton cord soaked in sensitex of 50% zinc chloride and then dried. The cotton cords are packed in between the tooth and gingiva with a flat instrument. These are left 3 or 4 minutes and on removal we can usually see the gingival margin of the cavity. If it isn't clear the cord should be put back until it is. It is not necessary to push back all the gingival tissue but only to get them away from the tooth. In clearing the margin for a full crown we use a larger cord, pass it twice around the tooth and then tie with one knot. Then the cord can be pushed down under the gingiva all around.

While the gingival tissue is being prepared I select a tray and dam it off with compound so it will have a definite seat when carried to place. This also helps to confine the hydrocolloid and make sure that there will be space between the tooth involved and the tray. Then I load the tray with hydrocolloid from the tube and place it in the tempering bath.

When ready to take the impression I start to inject the cavity, beginning at the bottom and carrying the material around the tooth. It is possible to get excellent impressions of pinholes using a 21 gauge needle to inject them. The tray is taken from the tempering bath and the water wiped

*Presented before Eastern Ontario Dental Association meeting, September 1950.

from the surface of the hydrocolloid. It is carried to place and held there while cold water is sprayed on it. A saliva ejector carries away the excess. An impression of the opposing bite is usually taken in hydrocolloid.

Water-cooled trays will cool more quickly but it has been suggested that we get a more accurate impression if the cooling is not accomplished too quickly. We do not remove the impression for at least five minutes to be sure it is set. A straight pull will usually remove the impression without damage. The impression is put in a 2% solution of potassium sulphate and then poured within 20 minutes. Research has shown that there is a measurable change in hydrocolloid after it has set. The most accurate results can be obtained by pouring the impressions soon after they are made.

Potassium sulphate hardens the surface of stone. In order to get this effect on our models we put the impression in potassium sulphate solution and leave it there 20 minutes. In preparing the impression for pouring we remove it from the solution and blow off all free moisture. Then we insert pieces of stainless steel band material into the hydrocolloid to facilitate division of the model later. We use a thick mix of diolite or similar, vibrated into place. Small pieces are flowed down the sides of the prepared tooth first to make sure no air bubbles are trapped. After the initial set the poured impression is placed in potassium sulphate solution. It will be ready to separate in 30 minutes. After the model is separated it should be set aside to dry till the next day.

When ready to wax up the inlay we immerse the model in Kerr's microfilm and blow off the excess. This makes it possible to wax up the inlay without having the wax stick to the model. Wax may be carried down into pinholes with an old explorer heated an inch from the end. In carv-

ing up margins on the stone models a little more care is needed to avoid marring them.

When making a bridge with two abutments we prepare both abutments and take their impressions at the same time. By taking two impressions it is possible to have a bridge completed and ready for insertion at the second appointment.

We have used Dental Perfection, Three In One Cream for taking impressions of wide open cavities, using the same method of controlling the gingival tissues and the same trays. Some of the material can be drawn up into a syringe and the cavity injected just as if we were using hydrocolloid.

We feel it is important to protect the prepared teeth till the restorations can be put on. This is advisable for the patient's comfort, to keep the gum tissue away and to avoid extrusion where masticatory surfaces are being restored. We use zinc oxide and eugenol or some similar material maintained in place where necessary by celluloid crown forms or aluminum shells. Temporary stopping is indicated only when dealing with devitalized teeth. A small amount of Dunlop wax or some similar material packed into the gingival area has a favourable effect on the soft tissue.

Many practical variations from this general method have been suggested. Briefly we like it.

1. Because of its great accuracy.
2. It is kinder to tooth structure than any form of band impression of which we have had experience.
3. Gold inlays and bridges can be constructed with much less chair time than by the old method.

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"Failure is the only thing that can be achieved without much effort."

A Study of the Fulfilment of Essential Dental Needs in a Community*

by A. B. SUTHERLAND, D.D.S., D.D.P.H., Sudbury, Ontario

DURING the school years 1948-49 and 1949-50, surveys were made of the oral conditions of primary school children and some pre-school children of the City of Sudbury.

Data from the above provide a good picture of the pre-school and primary school children with respect to their dental needs and the extent to which these needs are being met. The extent to which the local dental profession was contributing, in terms of time and direction of effort toward the fulfilment of observed needs was unknown. When this was explained to the dentists concerned, each co-operated whole heartedly in recording, on forms provided, the total office hours through the month of June 1950, together with the time spent upon individual patients indicating the age up to and including fifteen years. These data, along with some figures from the dental survey, and with some from the Dominion Bureau of Statistics, included to furnish point, are presented in table form. (Table 1)

Some history of the circumstances out of which the figures arise will assist in an appreciation of Table #1.

A total of twenty-two dentists had practised regularly in Sudbury and Copper Cliff¹ for some time prior to 1950. The one non-reporting dentist was on protracted holiday through June. Four undergraduates commenced summer employment in local offices during June 1950. Their contributions to children's work are not included. It would be desirable to have figures regarding dentists' time given over to children and covering a period longer than one month, but due to the extra work this recording creates in the dental office, such a procedure was considered not feasible. Data from the dental offices, not being intended to

indicate practice habits of the individual, were collected in such a fashion as to leave the dentist anonymous. The sum of the information received from the dentists represents a collective contributory effort toward dentistry for children, and it is felt that the mean of this can be regarded as the contribution of Mr. Average Dentist upon whom our rising generation is dependent for services.

Viewed in the above light, Table #1 reveals that Mr. Average Dentist spends 21 days of 6.8 hours per month in his office; 17 per cent of this time is given over to children aged two to fifteen years inclusive, which segment of the population represents 26.52 per cent of the whole.

The individual records in column "5," reveal that ten of the 21 reporting dentists spent more than the 17.3 per cent average of time with children aged two to fifteen years, but of these, only one devoted a percentage of time (36.4) equivalent to 26.52 percentage of the population involved. Beyond these observations there is no further comment to be made regarding Table #1, the content of which is further broken down in Table #2.

Table #2 indicates how the months' service as recorded in Table #1 was distributed among the two to fifteen years old population, also something of what service of this order is accomplishing. Some idea of the numbers from the various age groups attending dentists can be gathered from columns "1" and "2."

The 549 hours total of column "3," represents 17.3 per cent of the total June office hours of 22 dentists. This time was devoted to children aged two to fifteen years inclusive, and by the 1941 census, these age groups together

*Presented to the Council Meeting of the Faculty of Dentistry, University of Toronto, December 4, 1950.

TABLE NO. 1

1	2	3	4	5	
	Office Days June 1950	Total Office Hours June 1950	Total hours devoted to children age 2-15 Inclusive	% of total office hours devoted to children age 2-15 Inclusive	
Dentist No. 1	24	179.5	65.25	36.4	
" 2	26	170.0	43.25	25.4	
" 3	16	116.5	21.25	25.1	
" 4	26	175.0	43.5	24.9	
" 5	25	173.0	41.0	23.7	
" 6	22	151.5	33.5	22.1	
" 7	22	146.5	30.75	21.0	
" 8	19	152.0	29.0	19.1	
" 9	22	149.5	27.5	18.4	
" 10	26	189.0	33.5	17.7	
" 11	18	138.0	22.5	16.3	
" 12	23	138.0	22.5	16.3	
" 13	19	114.0	18.0	15.8	
" 14	13	94.0	13.5	14.4	
" 15	26	191.0	26.75	14.0	
" 16	26	188.5	23.5	12.5	
" 17	14	89.0	8.5	9.6	
" 18	25	167.0	14.25	8.5	
" 19	25	194.5	12.5	6.4	
" 20	23	82.5	4.5	5.5	
" 21	24	175.0	6.0	3.4	
" 22		Extended	holiday June		
	464	3174.0	549.0	17.3	

Children age 2 to 15 years inclusive represent 26.52% of total population Sudbury (1941 census).

TABLE NO. 2

1	2	3	4	5	6	7	8
Age Children Last Birthday	Number of Appointments June 1950	Time Allotted	Age % distribution of 549 hrs. devoted children June	Age % distribution of total 3174 June Office hours	Age % distribution of Population Sudbury (1941 Census)	% of need for fillings satisfied by number fillings found	
		Hrs., Min.,				1948-9 Survey	1949-50 Survey
2 yrs.	4	1 50	.3%	.05%	2.76%	No record	No record
3	17	6 35	1.2	.2	2.59	No record	No record
4	41	16 35	3.0	.5	2.14	30.0%	41.0%
5	74	31 10	5.7 10.2	1.0 1.75	1.95 9.44	20.0	35.5
6	87	40 20	7.3	1.3	1.94	18.1	25.8
7	80	36 45	6.7	1.2	1.93	25.9	30.8
8	135	61 20	11.2	1.9	1.81	26.9	39.2
9	113	50 35	9.2	1.6	1.87	31.6	45.0
10	130	61 30	11.2	1.9	1.91	38.9	52.6
11	104	47 35	8.7	1.5	1.47	47.3	59.6
12	111	49 30	9.0	1.6	1.60	53.3	61.0
13	113	58 15	10.6	1.8	1.57	47.7	61.2
14	90	51 15	9.3	1.6	1.52	44.1	55.2
15	63	35 45	6.5	1.1	1.46	39.8	46.8
	1,162	549 --	99.9	17.3	26.52%	*	*

* Figures age 2-5 inclusive refer Decid. Dentition

Figures age 6-10 inclusive refer Mixed Dentition

Figures age 11-15 inclusive refer Permanent Dentition

represent 26.52 per cent of the total city population. It should be pointed out that these 22 dentists are responsible, not only for the 48,000 persons presently resident in Sudbury City proper, and the town of Copper Cliff, but for a total population of approximately 80,000.

Dental care of the above order, that

is, 22 dentists giving 549 hours monthly to 26.52 per cent (the approximate 2-15 year old portion) of an 80,000 population would allow each individual in this group to enjoy 18.6 minutes of dental office time per annum. Note that this is on the basis of even distribution of time among all individuals in this por-

tion of the population. The actual distribution of time as it was allotted by ages during June is set out in the Table. Column "4," gives the percentage disposition of the 549 hours by ages, and column "5" shows the proportion of total office hours spent on the individual age groups. In considering the latter figures (col. 5) in relation to those in Column "6" (the age percentage distribution of children 1941 census), it is not meant to suggest that there exists any standard of relationship between these two percentage distributions. However, it is interesting to note the high correlation of the corresponding figures for the ages eight years and following. The dissimilarity in the same figures for the earlier ages is distinct; it definitely provides food for thought, but can be discussed to better purpose in conjunction with the information contained in columns "7" and "8."

The figures (columns 7 and 8) dealing with dental conditions (fulfilment of need for fillings) are from a survey of 6,500 school and pre-school children in 1948-49, and 6,557 in 1949-50. The children surveyed reside within the City of Sudbury, and the parents were notified of their dental conditions once each survey year. In consideration of this, and the fact that they are close to existing facilities, it is reasonable to suppose that their treatment requirements will have been more adequately satisfied than will those of the child population residing outside Sudbury and/or Copper Cliff. (The one dentist in Copper Cliff has been included in the June record). While these figures on fulfilment of need can be properly applied only to the Sudbury school and pre-school population, they do in fact flatter dental conditions therein, for the examinations as performed with explorer and mouth mirror reveal all fillings present, but certainly do not disclose all the defects. In this connection, it should be noted also that no record is made of the conditions of permanent teeth before the age of six years, nor of the deciduous teeth after the age of 10 years.

In stating the percentage of need for fillings which has been fulfilled by the number of fillings observed, it is not meant by any means to suggest that this is the only criterion for dental health progress. However, until some positive caries preventive procedure is developed, early detection and early repair of carious tooth surfaces remain the prime control factors—thus figures on "percentage of need satisfied" are significant. They provide a sound method for evaluating progress. It will be seen that these figures for the two years indicate improvement, yet there is a wide discrepancy between the 1949-50 records and those to be desired.

The 2, 3, 4, and 5 year age groups represent 9.44 per cent of the total population, yet the figures show them as engaging but 1.75 per cent of the dentist's total time. In order that they should enjoy a percentage of total office hours equal to their age percentage distribution in the population, their appointment hours would require to be increased more than five fold beyond what they are recorded as receiving in this one month. Four year olds received 16 hours, 35 minutes or 3 per cent of the 549 hours allotted ages two to fifteen years, and although this figure (3 per cent) is in excess of their 2.14 age percentage distribution, it represents only .5 per cent of the dentists' total office hours. Service in this order, allows seven minutes per year for each 4 year old in an 80,000 population, granting a similar age percentage distribution and the same dental personnel as are represented in this study. Such a service satisfied 41 per cent of the need for fillings in the 4 year olds examined in 1949-50.

As previously noted, there is none to say what dental office time is required to maintain oral health in any given age division, but it is nevertheless interesting to contemplate the results to be obtained, if the 2, 3, 4, and 5 year olds in this population were to engage, if required, a proportion of the 22 dentists' attention in amount equivalent to their age percentage distribution. It would most certainly give rise to more

favourable percentage of need figures, not only for these age groups, but for the following ages, because, so long as the younger ages receive attention in the order indicated by this survey, a backlog of defects must accrue in the older ages. Through this early neglect, the problem of repair increases to the extent that it becomes overwhelming in terms of both money and dental personnel. It becomes necessary to employ radical treatment which early therapeutic treatment would have rendered unnecessary. Radical treatment, far from solving the dental problem, frequently serves only to aggravate it. The removal of deciduous teeth can, and all too frequently does, have a devastating effect upon permanent teeth.

Under present conditions, the dental health of the population cannot progress properly, since from the point of rendering service, the dental profession must remain burdened with an overwhelming task. Relief can come only as the problem is approached in the manner of dealing with requirements incident to early and regularly frequent periods of dental attention.

The extent to which education of the public can contribute to an improved state of dental health is not to be lightly discounted. However, in this connection, it must be borne in mind that modern dental health education stresses two themes—Prevention and Treatment. The measure of improvement in dental health to be gained by educating the public to the adoption of habits and methods calculated to reduce the need for treatment is limited, if only because there are limitations to the effectiveness of any procedure which may be advocated. This latter fact is recognized in every present day discourse on dental health, for none fails to note how important it is that the young child visit the dentist at age 2 to 3 years, and at frequent following intervals. The fact is that education can stem from various sources, including the dentist, but the dentist alone can render treatment.

The surveys and records under discussion reveal that the efforts and ac-

complishments of Mr. Average Dentist concerned, fall far short of fulfilling the needs of children and especially those of very young children. It will be suggested that the reason for this is the lack of demand for the dentists' services, due to lack of appreciation of them or in other words, lack of education. In considering such a suggestion, reference may be made to Table #1, and it will be seen that the mean of time given over to children aged 2 to 15 years was 17 per cent of total office hours, and which average fell between the limits of 3 per cent for one dentist and 36 per cent for another. Why this wide variance? The demand for service occasioned by education, excepting that education which arises with the individual dentist, falls more or less evenly upon all members of the profession. The potential child clientele in one practice is very similar to that in another. Every dentist recognizes that attention for children is essential, then why does one dentist exploit the young child possibilities of his practice so much more than another? This must be attributable to something inherent in the individual dentist; either preference for performing certain types of dentistry or an ability or lack of ability to render treatment for children. If it is the case that the performance of dental treatment for younger children requires that the dentist possess some special attributes, certain qualities of personality, special abilities and special training, then doubtless many are thus precluded from rendering this service. The fact that paedodontia is a recognized specialty rather supports this proposition. It has been noted that when a group of "general practice" dentists enter into a discussion of why dentistry for children is undertaken in much greater part by one than it is by another, the word "economics" is almost invariably introduced and with the result that the issue becomes beclouded beyond recognition. Suffice it to say in this regard, that while it is a fact that many children are denied dental attention for economic reasons, their numbers increase in direct ratio

to the extent that they suffer early neglect. The disparity, for example, between the $\frac{1}{2}$ of 1 per cent of time devoted to four year olds and the nearly 2 per cent of time given over to 10 year olds, can in no sense be attributed to reasons economic.

The question "Who is to provide dental care for young children" presents a pressing problem. Basically a problem of or for Dentistry, it is also a Public Health problem. It exerts an influence in the field of Dental Public Health, to the extent that anyone so engaged, and who believes, that in order to be effective, dental educational programs for the public must be co-ordinated, if not to say integrated with a service, might well regard their labour as something less than a realistic endeavour. Is it reasonable to suppose that the personnel necessary to provide an essential service, that is, dental care for children, can be supplied through the medium of creating an increased demand for service by concentrating upon educating the public? Thought has been given this matter, as it relates to local circumstances. It will have been noted that the two yearly surveys provide no information regarding the dental status of children aged two and three years. To date, there has been no facility for contacting this group. Plans to make this possible, and also to permit examination of greater numbers of four and five year olds are under consideration. Such an arrangement would eliminate some older ages, but would seem to have merit, for in the examination of pre-school children, as in treating them, a parent is normally present, and this allows splendid opportunity for educative effort. Under the existing circumstances, it is difficult to anticipate the end result of a program designed to focus attention upon children aged 2, 3, 4, and 5 years. It should surely result in an increased demand for service, yet some dentists concerned have already stated that they would not, of choice, include more children of these ages in their practices. In order that the effect should meet with reasonable success,

and to avoid frustration, it would appear then, that an increased burden of children's work would needs be borne by something less than the total dentist population. Most probably it would require to be absorbed by those who are now, by reason of attitude and ability, providing the greater portion of this service; those now occupying the higher brackets of "time devoted to children" would be required to increase their efforts in this direction to the exclusion of other phases of dental practice.

Conjectural as the above statement is, it does suggest the raising of a corps of specialists or near specialists. Does this personnel problem demand such an expediency? If so, can it be accomplished in the manner indicated? If not, what alternative measures can be taken?

This presentation has been made in the knowledge that many people in places of authority are at this time giving consideration to the personnel problem in Dentistry. Some figures have been shown which relate to the child population in a community, to their dental condition, and to the amount of time devoted to children by the several dentists in this community.

It has been clearly indicated that within the limits of this study, children are not receiving care commensurate with their representation in the population, and above all are not receiving care in accordance with need.

The data provided show that dentists do not undertake work for children in anything like equal part. The observation has been offered that this is due in a measure to the lack of ability on the part of some and the absence of the required attitude on the part of others.

In taking due recognition of benefits owing to basic dental researches which the public may be educated to utilize, it has been stated that real improvement in dental health can be manifest only as the profession is organized to deal with the earliest incidence of dental de-

fects. To this end, the personnel necessary to provide adequate care for young children is a vital requirement. To the profession of Dentistry, this

should be a matter of first concern; as the problem is exposed in the field of Public Health, it must become more and more a matter of public concern.

ANNOUNCEMENTS

THE BIENNIAL CONVENTION OF THE WESTERN CANADA DENTAL SOCIETY will be held in Winnipeg, Manitoba, June 4-7, 1951.

THE ANNUAL CONVENTION OF THE MARITIME DENTAL ASSOCIATIONS under the auspices of the Dental Association of Prince Edward Island, will be held at The Charlottetown Hotel, June 27-29, 1951, Charlottetown, P.E.I.

ART EXHIBIT

(In connection with the C.D.A. Convention) Ottawa, September 23-26, 1951

Get your entries ready for Art Exhibit. Open to dentists and members of their families. Camera prints, oils, water colours and crayons will be gladly received. Send in that enlarged snap of which you are proud! All exhibits will be carefully returned. For further information, write:

Dr. A. W. Grace, Chairman of Art Committee,
56 Sparks Street, Ottawa, Ont.

ANNUAL FALL CLINIC OF THE MONTREAL DENTAL CLUB, Montreal, November 21-23.

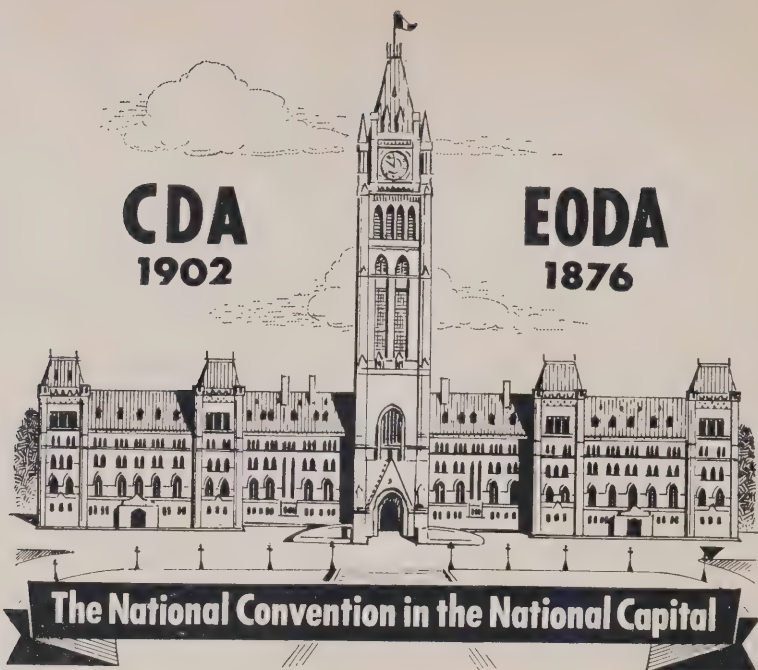
THE 1951 ANNUAL A.D.A. MEETING will be held in Washington, D.C., October 15-18.

NEW ORLEANS DENTAL CONFERENCE, Roosevelt Hotel, New Orleans, November 11-14, 1951. Dr. M. R. Matta, Sec., 629 Maison Blanche Building, New Orleans, La.

FELLOWSHIPS AND TEACHING ASSISTANTSHIPS are available for a limited number of graduate students in the **UNIVERSITY OF MINNESOTA SCHOOL OF DENTISTRY**. Stipends for these appointments range from \$1200 to \$3600 per year and include tuition exemption. Graduate study programs may be arranged with a major in Orthodontics, Oral Pathology, Oral Surgery, Oral Medicine (including Periodontia), or Restorative Dentistry (Operative, Prosthetics, Pedodontia, or Endodontia). The course in these areas vary in length from two to three years. An alternate program, in the basic sciences with special reference to dentistry, leads to the Ph.D. degree.

Persons interested in these appointments should write for an information bulletin and application form to the Dean of the Graduate School, University of Minnesota, Minneapolis 14, Minnesota.

The implication of some of the newer findings as to the possibilities of caries control may now be more clear. We cannot stop decay by brushing our teeth twice a day only. The effect of ammoniated tooth powders is still uncertain. Topical application of fluorine during childhood is advisable as an adjunct to regular dental care. Fluorinated water seems to increase the ability of the saliva to block acid formation. The surest way to prevent acids from forming is to curtail the intake of fermentable carbohydrates and the most dangerous of these are the sweets ingested at just any time of the day. Duration and extent of abstinence can be easily determined with the L.a. index of the saliva. Total elimination is rarely required. For most of us, however, a sacrifice must be made to keep the teeth in a healthy condition—you may take your choice—it's either the dentist's chair or the dinner table!—Hermann Becks, M.D., D.D.S., in Bul. Oklahoma State D. Assoc.



SEPTEMBER 23, 24, 25, 26

REDUCED RAILWAY FARES TO OTTAWA will be available to members of the Canadian Dental Association and their families who attend the national meeting in September. **SECURE IDENTIFICATION CERTIFICATES** permitting members to purchase these tickets from THE SECRETARY, CANADIAN DENTAL ASSOCIATION, 234 ST. GEORGE ST., TORONTO.

Round trip tickets will be sold at one and one half of the normal adult one way first class, or coach class fares, plus 25 cents, upon presentation and surrender of identification certificate to the ticket agent. Tickets are good for 30 days return limit.

Plan now to be in Ottawa for the Convention—Write Dr. H. N. Beach at 150 Metcalfe St. Ottawa for hotel accommodation.



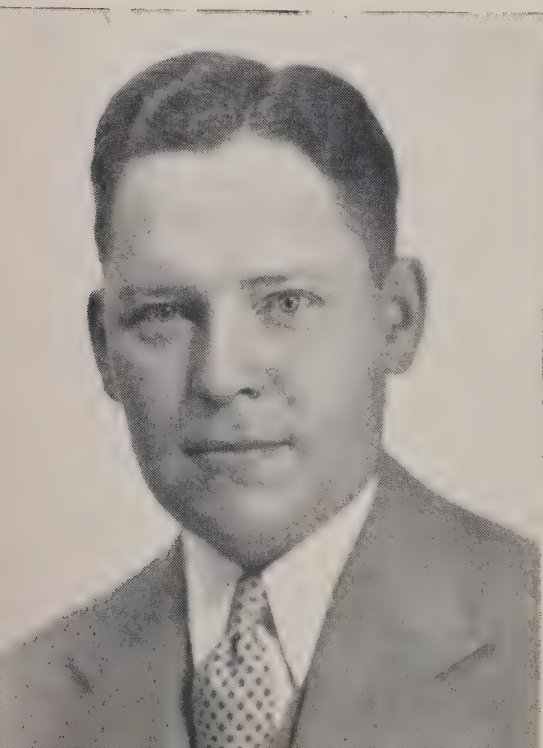
◀ **Dr. James P. Coupland, F.I.C.D.**
Ottawa

is another well-known Canadian dentist with an international reputation on the Convention program. He enjoys the esteem of his colleagues wherever he goes for his work in Dental Oral Surgery and Radiodontia. He is an excellent teacher.

Dr. Coupland is an essayist at the annual meeting in September and his subject is — "Review of developments which have influenced the course of dental surgery."



**Watch for Complete tentative
Program next month**



The Forum

TOOTH TRANSPLANTATION: REPORT OF CASE*

by HORACE M. MILLER,† D.M.D., Portland, Ore.

From *Journal of Oral Surgery*, Jan. 1951

The transplantation of teeth has fascinated the public from George Washington's time to the present. In view of the recent interest a series of transplantations and reimplantations is under progressive and continuous study at the University of Oregon

around the roots. Sufficient bone was removed from above and around the tooth to allow easy adequate access. This growing third molar was immediately placed in the freshly prepared socket, after which the soft tissue was drawn as far as possible over the



Fig. 1.—A: Crown of lower right first molar badly broken down, pulp exposed. Third molar starting to develop. B: Third molar transplanted in first molar position. C: Transplanted molar being forced up by bony development in the socket.

Dental School, Portland, Oregon.

A boy, aged 15, was admitted to surgery March 30, 1948, with the crown of the lower right first molar badly broken down, the pulp was exposed and pulpitis was present (Fig. 1, A). This molar was extracted under mandibular block anaesthesia after barbiturate premedication; the socket was prepared to receive the transplantation so that the tip of the crown would be below the surface of the bone of the socket. The lower right third molar which had roots starting to form and crown essentially complete was removed carefully to avoid trauma to the developing membrane

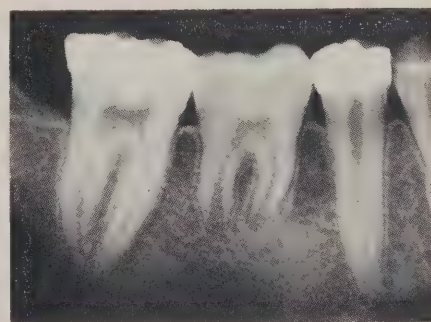


Fig. 2.—On April 27, 1949, the transplanted molar was firmly established in the arch and was pushed up into line of occlusion. Colour and luster are good. The tooth is in masticating function.

*Presented before the Oregon State Society of Oral Surgeons, Portland, Oregon.

†Professor of Exodontia, University of Oregon Dental School, Portland, Oregon.

crown and held in place with sutures. Figure 1,B, taken July 16, indicates the position of the transplanted lower third molar in the first molar position. It is firm and protruding above

the soft tissue which looks normal. The patient reported only slight pain, and there was slight swelling the first three days following the operation.

CLEFT PALATE

Question: A baby 6 weeks of age has a cleft palate which involves only the uvula and the entire soft palate. Should this be repaired, and, if so, at what age? What will be the harmful effects if it is left unrepaired? Does such an anomaly ordinarily interfere with nursing?

Answer: It is the consensus among plastic surgeons that cleft palate defects, including those of the soft palate only, should be operated on at the age of about 18 to 20 months. If it is left

unrepaired the patient probably will develop typical cleft palate speech. On the other hand, proper closure should afford satisfactory speech provided that adequate speech therapy supplements the surgical treatment. The ability to nurse is sometimes impaired because of the leakage of air through the nose. These children sometimes do better fed with a bottle and a large-holed nipple.—J.A.M.A., Vol. 142, No. 16, p. 1329, April 22, 1950, per N.Y. *State D. Journal*.

TREATMENT OF NEAR-EXPOSED AND EXPOSED PULPS IN THE PRIMARY AND PERMANENT TEETH OF CHILDREN

by RALPH L. IRELAND, D.D.S., M.S., Lincoln, Nebraska

Condensed from Texas D. Jour., Jan. 1, 1951

It is not uncommon to find carious areas in children's teeth which have progressed until they are close to the pulp. The prognosis is favourable if: (a) the tooth hurts momentarily after eating; (b) cold drinks or air cause pain and (c) the tooth is not sore to pressure.

The prognosis is not favourable for treatment if: (a) the tooth hurts at right or when the child is lying down; (b) hot foods or hot drinks cause pain; or (c) the tooth is sore to pressure percussion.

Operative Procedures

1. Isolate the tooth by means of cotton rolls or the rubber dam.

2. Remove all soft carious dentine with a large round bur. If the pulp is not exposed, the hard discoloured dentine in the base of the cavity should not be disturbed. If the pulp is exposed, pulp capping or partial pulpectomy may be performed.

3. Dry the cavity thoroughly with warm air and apply ammoniacal silver

nitrate to the hard discoloured dentine left in the cavity. The ammoniacal silver nitrate is reduced with eugenol.

4. Restore the cavity to form with a zinc oxide and eugenol or zinc phosphate cement base and fill the cavity with a permanent filling material.

The practice of capping exposed pulps in the primary and permanent teeth of children is debatable.

When the pulp of a primary or young permanent tooth is exposed, partial pulpectomy may be performed *if the pulp is vital*. A flow of bright red blood (arterial) indicates that the pulp is sufficiently vital to warrant this operation. However, if the blood is a dark red colour (venous), it is safe to conclude that the pulp is sufficiently infected to prevent this operation from being successful.

(Obtain anaesthesia)

Procedure

1. Isolate the tooth to be operated on with a rubber dam.

2. Paint the surface of the tooth and

the rubber dam adjacent to the tooth with tincture of iodine. All instruments used should be sterilized by boiling. Gauze packs and cotton pellets are sterilized by placing them in an autoclave for forty-five minutes at 20 pounds pressure or in a dry heat oven for one hour at 350 deg.

3. Remove enough of the enamel and dentine over the pulp chamber to allow for easy access to the chamber. A No. 557 or a No. 558 fissure bur may be used for this purpose. Sterile distilled water may be used to wash out the debris.

4. The coronal portion of the pulp is amputated at the level of the floor of the pulp chamber with a No. 6 round bur. Haemorrhage is controlled by pressing a cotton pellet saturated with adrenalin (1:500) or neosynephrine (1 per cent) against the pulp stumps.

5. The floor of the pulp chamber and the amputated pulp stumps are covered with a paste of calcium hydroxide and sterile distilled water. A cement base and silver amalgam filling are placed immediately.

SOME OBSERVATIONS ON DENTAL CARIES IN CENTRAL CHINA

by D. AFONSKY, D.D.S., Changsha, Hanan, China

Conclusion of paper in Jour. of D. Research, Feb. 1951

The Oriental diet rich in carbohydrates (rice) does not predispose to caries. On the contrary, it has been found that such diet is associated with considerable immunity.

Adequate diet is not essential for immunity to caries. Caries is less common in malnourished than in well-nourished individuals.

The local effect of foodstuffs and dietary habits appear to be of greater importance in susceptibility to caries than the nutritional status of the person. Lack of easily fermentable carbohydrates and sticky foods, frequency of meals and absence of eating between meals may be considered as major factors in immunity.

PREVENTION OF MALOCCLUSION

by THOMAS D. SPEIDEL, D.D.S., Minneapolis, Minnesota

Condensed from North-West Dent., Jan. 1951

If we know the causes, if the causes are controllable, and if the means of applying these controls are available, we can prevent a condition of malocclusion.

It is evident that this effort to tabulate influencing factors and to briefly consider their control and treatment has forced several realizations upon us.

1. The pressures surrounding the teeth are the influences that we understand best.

2. These pressures are to a considerable extent controllable, and removable by currently accepted dental procedures.

3. These pressures are but one segment

of the total group of influencing factors.

4. The remainder of the influencing factors are subject to much less control by the dentist.

5. A serious attempt to prevent malocclusion requires the best of both general health and dental health procedures.

Actual prevention of malocclusion is not to be achieved by controlling any one of the influencing factors. Strict prevention requires the control of all factors.

6. Heredity is an influencing factor beyond the scope of currently accepted practices.

7. If we are to accurately estimate

what our present preventive possibilities are we must have (a) studies to give us information as to the incidence of adverse variation of these influencing factors, and (b) studies to give more precise information about the effectiveness of efforts to control these influences. This information is essential before we can rationally determine how to administer preventive procedures to the people who need them.

Honest to-goodness prevention is needed. To accomplish this we need research. Each step forward in the prevention of dental caries is a step toward eliminating a causative factor in malocclusion. Each step forward in the promotion of good health, and

hence good growth, is a step toward preventing malocclusion. More progress, more research is needed.

To recapitulate—we need to be able to define precisely the relationship between malocclusion and health. We need to know about the incidence of malocclusions that affect health (not all malocclusions are health problems); we need to know about the prevalence of aetiological factors in malocclusion. We need to know more accurately how effective our preventive procedures are. We need more complete understanding of many of the aetiological factors. We need ways of preventing adverse effects of these factors.

HANDLING COMPLAINTS

by S. M. KENNEDY in the "Dental Assistant"

If a customer has a complaint ranking in his mind, it is well to get it out. Each complaint is an opportunity to make a new friend, and friends made this way are the kind who will gladly prove themselves friendly when the occasion offers. Little or much may be done to satisfy a complainant. But the main thing is to make him feel that his complaint was listened to with attentive consideration, that an interest was taken in his trouble, and a sincere determination was shown to make matters right.

It is not too much to say that a complaint may, at times, even be welcomed because of the opportunity it gives to strengthen the list of satisfied

customers. It is not going too far to state that no adverse criticism of a company should be permitted to go unchallenged. The man who adversely criticizes should be interviewed in a courteous manner, and with a genuine desire to please. The critic will not be any the worse for the tactful interview, and the chances are that he will feel better toward the company and its business. Upon the manner in which this end of the business is handled, largely depends the friendship of the company's customers, and the growth and prosperity of the company itself. Satisfied customers almost invariably become active agents for the advancement of the company's business.

THE PUBLIC DENTAL SERVICES OF THE WORLD—SWEDEN

by H. BERGGREN, ODONT. Dr.

Principal School Dental Officer, Stockholm

Summary of paper in International D.Jour. Dec. 1950

The social privilege conferred by the public dental service has been heartily appreciated all over the country. The confidence of the population is shown by the high number of entries; there

is an almost 100 per cent membership of children in the school dental service. The equipment of the polyclinics is first class, and the treatment of good quality. The Swedish public den-

tal service therefore must be considered a significant and valuable factor in the health care of the nation.

The public dental service in Sweden at present is undertaken as follows:—

(a) The school dental service, which is paid by the municipalities, but without Government subsidy. Since the beginning of the century it has been open to school children between 7 and 15 years of age.

(b) The general Government-supported public dental service is for children between 3 and 15, adolescents between 16 and 20, and adults. It is being further developed, and when fully built up it will take over the school dental service. The public dental service is organized as a district dental service with the county council and as a dental service at central dental polyclinics in connection with the

county hospitals for more complicated cases and at certain institutions, such as mental hospitals, sanatoriums and prisons.

(c) The military dental service is paid by the military authorities, and under special conditions is open to the military personnel.

The population of Sweden is about 6,500,000, and when the public dental services (b) and (c) are fully built up about 2,500 dentists will be required towards which some 800 or 900 are now employed.

To satisfy the needs two dental colleges examine 180 dentists a year and a third dental college is planned.

For the future, when calculating upon a twenty-years' building up of the public dental service, some 100 new dentists are required a year.

DIRECT INLAY TECHNIQUE

by C. V. LEHMAN, D.D.S., F.A.C.D., Cedar Rapids, Iowa

Summary of paper in N. W. Dent., Oct. 1950

1. It is imperative that we have as perfect a cavity preparation as possible.

2. We must treat wax correctly, heating it slowly and never chilling it during its manipulation, finally having a well condensed, corrected pattern of the cavity.

3. We must know by trial and error the action of the investment we are using.

4. We must know the action of the inlay furnace, checking it by time clock when it reaches 1,250 to 1,300 degrees, and cast the inlay within these two points, not before nor after, but right then.

5. We must make relief on the cavo-surface of the finished casting to allow it to seat completely in the cavity when using any cementing medium.

TREATMENT OF VINCENT'S INFECTION

From Jour. of Oral Surgery, Oct. 1950

Q.—Does the specialty of oral surgery include the treatment of Vincent's infection?—Benjamin Tucker, D.D.S., Babylon, New York.

A.—Vincent's infection is a gingival disease and is, therefore, in the field of periodontia.

The treatment of Vincent's infection consists of three phases:

1. The relief of acute symptoms by establishing good oral hygiene and the use of drugs when necessary.

2. The healing of the areas of ulceration and regeneration of the destroyed tissue.

3. The prevention of exacerbations of the acute process.

The second and third phases neces-

sitate thorough prophylaxis and the teaching of methods of good oral hygiene. It may also require the placement of restorations and the relief of traumatic occlusion.

The oral surgeon, when treating Vincent's infection, will prescribe penicillin or some other therapeutic agent which may relieve the acute symptoms but will not carry out the other procedures which are essential in providing a cure. The patient will still have to seek the assistance of a general dentist or periodontist. If he does so immediately following his visit to the oral surgeon, when he is free of acute symptoms, it becomes difficult to convince him of the need of further treatment. The use of penicillin and other drugs may relieve the acute phase of the disease only to have it recur in a

subacute or chronic phase. The long-standing subacute or chronic Vincent's infection results in tissue destruction and the patient at some later date experiences a severe periodontal problem.

Because the oral surgeon treats only the acute symptoms and does not eliminate the cause or prevent recurrence, it would be reasonable to conclude that the treatment of Vincent's infection is not in the province of oral surgery.—Donald A. Kerr.

It is well known that most oral surgeons treat acute Vincent's infection. This is a matter of necessity in many communities but follow-up care by the patient's general dentist or periodontist is highly desirable to avoid subacute or chronic disease.—Editor of *Jour. of Oral Surg.*

ANALGESICS AND PAIN RELIEF

Condensed from *Illinois D. Jour.*, Oct. 1950

The dentist is often undecided in his choice of the most effective method or agent to relieve pain in a given patient because of the multiplicity of analgesics available. Narcotics or habit-forming drugs cannot be prescribed without serious consideration and some attending fear. The present investigation was undertaken to establish a criterion which could be used for the selection of a suitable systemic analgesic agent in the routine practice of dentistry.

This study is based upon 584 ambulatory patients of both sexes, ranging in age from 2 to 78 years. They represent a fair cross-section in dental practice. The cases were selected on the basis of acute pain. They included acute and passive hyperemic-toothaches, non-specific facial neuralgias, (not tic douloureux), aphthous ulcers, i.e., herpes buccalis, labialis and lingualis; post-extraction pain, post-extraction infectious alveolar osteitis (dry-socket), temperomandibular arthralgias, glossodynia, pain induced by orthodontic separation wires, and cases in which the tooth was still sensitive to percussion following mandibular or maxil-

lary local anaesthetic infiltration, or block. The analgesics employed were salicylic acid derivatives alone or in combination.

Four analgesics of the salicylate group were administered on a control basis to 584 patients. These agents were listed as follows:

- Agent I. The Sodium Salt of Acetylsalicylic Acid, U.S.P.
- Agent II. Aspirin, phenacetin and caffeine (A.P.C.)
- Agent III. Aspirin, aluminum glycinate and magnesium carbonate (Buf-ferin).
- Agent IV. The Sodium Salt of Acetylsalicylic Acid and Benzosulfimide, (Theryl).

All patients complained of acute pain of dental or maxillofacial origin.

Agents I, II and III were swallowed with the aid of water. Agent IV was placed under the tongue and permitted to disintegrate and absorb from the mucosa of the mouth without the aid of water. The patients' saliva served as the solvent media.

The most striking observation was the rapidity with which analgesia be-

came effective with agent IV (30 seconds to five minutes) as compared to the longer period (18 to 70 minutes) required for the other 3 agents (I, II and III) to bring about similar relief of pain.

No significant correlation could be

drawn on a comparative basis of depth and duration of analgesia in the 4 agents studied.

Sublingual absorption of the sodium salt of acetylsalicylic acid—benzosulfimide (Agent IV) fulfils the requirements for an ideal analgesic.

CARBONATED BEVERAGES, SWEETS AND CARIES

Condensed from Editorial in N.Y. Jour. of D., Feb. 1951

Although nutrition is widely recognized as a factor in the aetiology of dental caries, little or no attention has been paid in the past to the harmful effects of commonly used foods, condiments and beverages. The standard diet of American families of practically all economic levels includes sufficient nutrient foods, containing the required daily portions of proteins, carbohydrates, minerals, vitamins, etc. The danger of malnutrition lies not so much in the inadequacy of available foods as in the exclusion of important dietary elements by the substitution of more palatable and highly advertised sweets and beverages which disturb not only nutritional balance but may actually prove harmful to the bodily organs and tissues.

McCay and Will conducted studies on the molar teeth of rats and human beings to determine the effects of various acid solutions and beverages. Erosion of molars in rats was detected after the consumption of 10 ml. of acid solution of the same strength

used in cola beverages. In a comparative test of acid erosion over a six months' period, it was found that tomato juice had the least harmful effect while 0.055 per cent phosphoric acid was most harmful. Phosphoric acid eroded rat teeth almost to the gum line.

Human teeth when suspended in cola beverage or its equivalent in sucrose-phosphoric acid gradually lost calcium over a two weeks period. The buffer action of human saliva against cola beverages was found to differ widely in different individuals. However, it is fairly constant in any given individual. In other words, the resulting erosion of the teeth after consuming cola beverages will be found to be consistently harmful more so in some persons than in others. Some mouths can not buffer cola solutions to a pH higher than 3.5, which is marginal for erosion after exposure for as short as a half minute. It is well known that the teeth are usually exposed to the erosive action of cola drinks for hours.

THE EFFECT OF PARTLY SYNTHETIC DIETS ON THE DENTAL CARIES INCIDENCE IN SYRIAN HAMSTERS

by FRANK J. ORLAND, ELIZABETH S. HEMMENS, and R. W. HARRISON

From the Walter G. Zoller Memorial Dental Clinic and the Department of Bacteriology and Parasitology, University of Chicago, Chicago, Ill.

Summary of paper in Jour. of D. Research, Aug., 1950.

Based on the assumption that certain oral bacteria are important in the development of dental caries, this investigation concerned itself with the environment of the oral cavity in the Syrian hamster. The factors considered were: (A) the nutritional sub-

strate provided by the ingested food, (B) the bacterial flora subsisting on this substrate, and (C) the molar teeth subjected to carious destruction presumably by the action of the bacteria. Partly synthetic experimental diets containing 11 vitamins in measured

amounts, with 1 or 2 of these vitamins being omitted from each test diet, were fed to 682 hamsters distributed into 18 different dietary groups for a 100-day period. During this time, the animals were provided with adequate amounts of the missing vitamins semi-weekly by intraperitoneal injection for their own nutrition. As a plausible measure of the degree to which certain oral bacteria were retarded or accelerated in their growth and metabolic activities, the extent of the carious lesions in the hamsters' molar teeth were evaluated.

The trends observed in this study were the following:

1. When vitamin K was absent in the diet, hamsters showed the greatest

amount of dental caries.

2. The animals on a diet deficient in choline chloride developed about twice as much caries as animals in the control groups.

3. With the omission of nicotinic acid, the amount of caries was reduced to about one-half that of the control animals.

4. Animals receiving neither nicotinic acid nor inositol showed a higher degree of dental caries than the control animals.

5. Absence of vitamin E did not seem to prevent lesions from occurring but apparently retarded their progress.

6. Substitution of dextrin for sucrose caused a 50 per cent decrease in molar destruction by dental caries.

PREGNANCY AND TOOTH DECAY

J.A.M.A. Dec. 10, per N.Y. Jour. of D.

Statistical data on a large number of pregnant and non-pregnant women of different age groups led Day and Shourie to conclude that caries susceptibility does not increase as a result of child-bearing. From similar evidence Ziskin and Hotelling concluded that the factors operating during pregnancy actually prevent tooth decay. Experimental test of these conclusions is reported by Granados and his associates of the Polytechnic Institute, Copenhagen, Denmark. The Danish biologists maintained newly weaned female hamsters for three and a half months on a suboptimal diet, consisting of finely ground yellow corn, sucrose, cornstarch, powdered whole milk,

salt mixture and vitamins. At the end of fifty-six days 14 female hamsters were successfully mated, while 13 others were set aside as nonpregnant controls. At the end of three and a half months all female hamsters were killed and the carious lesions scored. In the pregnant group the average number of carious molars was 8.0, while there was an average of 8.5 in the nonpregnant group. The average number of individual carious lesions was 11.5 and 10.8, respectively. From this evidence it was concluded that, within the limits of the statistical error, pregnancy did not influence caries activity in this experiment.

EXODONTIA DURING PREGNANCY

From Jour. of Oral Surgery, Jan. 1951

Q.—Is it safe to extract teeth during pregnancy?

A.—Under the ordinary circumstances, the condition alone does not prevent routine minor oral surgery. The tendency among some dentists to hesitate in removing defective teeth because of possible miscarriage or premature labour is groundless. With

the natural exception of the last several weeks before term oral surgery procedures will not alter the course of a normal pregnancy. Discretion must be used in the selection of premedicating drugs and anaesthetics in view of altered metabolism and a consultation with the obstetrician may be advisable.



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Hugh M. Eaton, Halifax

NEW BRUNSWICK:

John E. Edgecombe, Saint John

Associate Editors

QUEBEC:

R. F. Harvey, Westmount

ONTARIO:

T. R. Marshall, Toronto

MANITOBA:

J. F. Morrison, Winnipeg

ALBERTA

L. K. Brooks, Calgary

SASKATCHEWAN:

L. D. Haselton, Saskatoon

BRITISH COLUMBIA:

Leslie G. Robinson,
New Westminster

Editorial

AMMONIATED DENTRIFICES

Someone has said that future generations will bestow upon our present generation the title, "Age of Ignorance," ignorant not because we know so little but because we know so much and do not know how to digest it and make use of it. It just becomes depressing when we consider the flood of knowledge coming off the press in these days and the minute portion of which we are able to put to use. Many of us say, "The heck with it. Let the boys with the microscope work it out." However, we ordinary men, while looking to the expert to tell us what is going on in the world, particularly in our own field of dentistry, should be most careful in our evaluation of what some so-called experts tell us, else we may find ourselves at their mercy as effectively as the peoples of ages past were subservient to their witch doctors. Again, many sincere investigators publish interim findings made on progressive study which are, of course, subject to change and often reversal or further study but which are published to the public by commercial interests as scientific findings without regard to the background.

The true scientist demands absolute accurate and well-controlled experiments on a reasonably large scale and over a long period of time before he draws any conclusions. The enthusiast too often jumps at conclusions and it is from him that much unsound medical statements emanate.

In the last issue of this journal there appeared a research article entitled "Interim Report on a Controlled Experiment on Pre-School Children with an Ammoniated Dentifrice," the result of some research work done by Gale of Glasgow, Scotland. A month earlier the findings of this report were circu-

lated to the dentists of Canada by the manufacturer of one of the leading ammoniated tooth powders, described in the advertising media as details of one of the most significant reports of independent investigators. The significant fact was that the group of children using the ammoniated powder had 39.5% fewer new cavities than the control group.

About this time a young lady who had had some problem as far as dental caries is concerned had an appointment in our office. She had not been in for a little over a year, due largely to sickness in the family. However, at her last visit an ammoniated tooth powder was prescribed which she claims to have used faithfully. Upon examination it was found that she had fourteen cavities. Should we assume that she would have had about twenty cavities had she used some other kind of tooth powder? I don't think so. Neither do I think that one has the slightest justification in assuming that as the results of the very limited research work done in Glasgow, as reported in this journal, that dental caries can be reduced by any such amount as 39.5% by the use of an ammoniated tooth powder.

Let us examine this Report in the light of true scientific demands as already outlined. Was it a well controlled experiment? Was it on a reasonably large scale? Was it over a long period of time? The answer is "No" to all of these questions, based on the information given in the report. There were only thirty children in the experiment with thirty more as controls, which is much too small a number. A much larger number of children should have been studied and all the children should have been given a special tooth powder with the ammoniated content deleted from half the number. In this way a special tooth consciousness would not have been developed in the test group leading to possible special home care. Instead of selecting the control groups from different schools, they should have been selected from the same school in each case, for while the tooth brushing is said to have been under strict supervision and under carefully regulated conditions, it could not be expected to be uniform under these arrangements. Then again, there could be too many variables in such a small group of children, much too small a group from which to draw any conclusions. Likewise, one year is much too short a time from which to evaluate such a treatment. An experiment of this kind could not possibly have any merit as far as drawing conclusions that dental caries can be reduced 39.5% by such a procedure.

Kerr and Kesel report, in the February Journal of the American Dental Association, the results of a two-year experiment under very strict controls of 1428 children in Peoria. Ultimately the program lost 644 children and we wonder if a large percentage of these were in the susceptible or non-susceptible group. Original examinations were made by two dentists and the final examination was made by one of them. Would there have been a difference if the pre and post examination of each child had been made by the same man? All roentgenograms were not satisfactory so the number of children was still further reduced. However, allowing for a number of variables, results did show that the supervised use of a dibasic ammonium

phosphate and urea dentifrice reduced caries activity in these children about 12 per cent more effectively than use of a non-ammoniated dentifrice.

It is so easy to distort these findings for commercial purposes and it would seem that these Illinois investigators have shown the part of wisdom in only concluding that the study shows a *trend* which indicates the usefulness both of good oral hygiene and an ammoniated dentifrice.

From the evidence at hand this writer is not yet convinced that the ammoniated tooth powders have very much effect in reducing the incidence of dental caries and that we should look for, and should encourage, large scale investigations in this field. At the present time this whole problem is in the experimental stage and does not warrant the publicity given to it. However, as long as reports indicate a favourable trend one is quite justified in testing them.

M.H.G.

BOOK REVIEW

Exodontia by M. Hillel Feldman, D.D.S., F.I.C.A., Director of Dentistry, Lincoln Hospital, Department of Hospitals, City of New York; Diplomat of the Board of Oral Surgery, State of New York; Fellow of the International College of Anaesthetists; with a chapter on Dental Malpractice Jurisprudence by Michael A. Hayes, A.B., L.L.B., member of the New York Bar. Fourth Edition, thoroughly revised with 322 illustrations. Published by the Macmillan Company of Canada. Price \$7.80.

The author deals with anaesthesia; the management of teeth in the presence of acute infection; roentgenographic examination; manipulation of instruments; exodontia technique for all varieties of cases; sutures and dressings; management of deciduous teeth; op-

erative accidents; and postoperative consideration.

In this fourth edition of this fine work the author has replaced many of the old illustrations with new ones which clarify the many problems splendidly. The aim is to remove a tooth with a minimum of trauma to the tissues locally, and a minimum of psychic and physiologic reaction.

The author is an enthusiastic believer in procedures involving the drill and lever technique rather than the mallet-chisel force which he considers is kinder to the tissues and for which technique he presents a strong case.

The chapter on malpractice is also very interesting, in fact, this book is well worth careful perusal.

M.H.G.

CORRESPONDENCE

Dr. J. Menzies Campbell, 14 Buckingham Terrace, Glasgow, W.2., writes—

While a foreign visitor was studying an engraving of mine of Saint Apollonia, I, casually, remarked: "The Patron Saint of Dentistry."

I was highly amused when he straightway replied: "The history of dentistry will require to be rewritten, because you in Britain, have a Patron Saint of your own, Aneurin Bevan."*

*The Minister of Health, who was responsible for the inauguration of the New Health Service in Britain.

The practice of modern dentistry requires smooth, well poised, properly conditioned and integrated nerve and muscle tissue, and to make this possible we must avoid the three main causes of lowered resistance and tissue depletion, which are inadequate nutrition, inadequate sleep, and inadequate physical exercise.—Rowe Smith, D.D.S., in Bul. Oklahoma D. Assoc.

ROYAL CANADIAN DENTAL CORPS NEWS

1. Capts. R. E. Brown, N.A. Butcher and C. B. Crutchfield have been promoted to the rank of Major.
2. The promotion of Warrant Officers W. J. Thomson, L. K. Wansbrough and C. Casterton to the rank of Lieutenant and Quartermaster in the R.C.D.C. is also announced.
3. Major W. I. Whitehead who has been serving in Western Canada, reported to the Directorate as A.D.D.S. (Adm.). Major Whitehead joined the Corps in 1941, serving in Canada, England, Italy and Northwest Europe. Major Whitehead was born in Farnham, P.Q., attended McGill University, graduating in 1929. He practised in the City of Montreal, prior to his appointment.
4. Colonel C. B. H. Climo visited, during March, the Post-Graduate Army Dental School, Walter Reid Hospital, Washington, D.C., and the U.S. Naval Dental School, Bethesda, Md.
5. Major I. A. L. Millar, a member of The R.C.D.C. School Staff, has been posted to the Directorate as A.D.D.S. (Training). Major Millar was born in Matapedia, P.Q., and after completing his High School education at Spring Hill, Nova Scotia, attended Dalhousie University, Halifax, N.S., graduating in 1938. He began practice at Liverpool, N.S., and joined the Corps December 1939. He served in Canada, England, Northwest Europe, returning to Canada in 1946.
6. Lieut.-Col. F. R. Drewry vacated the command of No. 13 Coy. R.C.D.C. (A.F.) R.C.A.F. Station, Trenton on March 18, 1951 and has been posted to Ottawa as D.D.D.S.
7. Lieut.-Col. H. L. Harris who has served at R.C.D.C. Headquarters for the past three years, assumed Command of No. 13 Coy., R.C.D.C. (A.F.), R.C.A.F. Station, Trenton, Ontario.
8. The Royal Canadian Dental Corps regrets the sudden death of Lieut.-Col. Gordon Frawley, E.D. Lieut.-Col. Frawley was appointed to command No. 1 Bridge Coy., R.C.A.S.C., on the outbreak of the Second World War. He served in Halifax as District Supply & Transport Officer, later in Ottawa, and transferred to the C.D.C. on May 10, 1941. He went overseas in May 1943 to assume command of No. 1 Dental Coy., which he took to Sicily and Italy. For his services, he was awarded Mention in Despatches. Lieut.-Col. Frawley was appointed to command No. 2 Coy., R.C.D.C. (R.F.) on May 22, 1948. He will be greatly missed by his many friends in the Canadian Army.
9. The name of the Captain left blank in the list below photo of No. 3 Dental Coy., R.C.D.C. (R.F.) appearing on page 162 of March issue of this journal is Captain Steven Lloyd Yaremchuk.

NEWS FROM THE PROVINCES

ALBERTA

The Calgary Dental Society met in the Palliser Hotel on March 12 to hear the final Telephone Broadcast from the University of Illinois. As the topic was of interest to the medical profession, several eye, ear, and throat specialists were our guests. At the conclusion of the broadcast, the regular business meeting of the Society was held. It was unanimously decided that for the fall term, the meetings be held separately from the telephone extension course as the meetings together became too lengthy.

The curlers in the Society had another bonspiel at the Glencoe Club on March 30. Refreshments during and after the curling were followed by a banquet. Prizes were given to the winning rinks. An excellent time was had by all. The Society expects this to be a monthly affair next winter, but right now all interests are on the Golf Tournaments.

L.K.B.

SASKATCHEWAN

Visit of Dr. R. E. Moyers—Dr. Moyers of the Orthodontia Department, Faculty of Dentistry, Toronto, presented to Regina and Saskatoon dentists a most stimulating illustrated clinic on Preventive Orthodontia. His clinic was very educational and practical for the general practitioner and deeply appreciated by the men present. Dr. Moyers' knowledge, presentation and personality were indeed an inspiration and his visit will long be remembered. He will be welcomed back again on some future occasion.

L.H.

MANITOBA

The Winnipeg Dental Society met on March 19, and again on April 9, in the Royal Alexandra Hotel, with the President of the Society, Dr. Joseph Rumberg, presiding on both occasions with his customary efficiency.

The March meeting was a home talent

affair, and as mentioned in the third letter of the Western Canada publicity, was an outstanding demonstration of home talent abilities in the profession of dentistry among the members of the Society.

Intra-Osseous Anaesthesia was presented by Dr. Douglas Brown; Oral Surgery by Drs. E. Roy Bier, J. Freeman and W. Robb, with slides and moving pictures. Endodontia was presented by the Study Group under the Chairmanship of Dr. I. Wolch. Muco-statics was presented by Dr. H. Greenberg of the Alpha Omega Study Group, and the Minn-Tor (Minnesota-Toronto Grads) Study Group presented "Five Types of Bridge Work." Continuous moving pictures showed Infiltration Anaesthesia, Mandibular Anaesthesia, Tuberosity, Posterior Palatine and Second Division Injections.

One of the outstanding items on the program was a report to the Society by Dr. G. A. Buchanan, Chief of the Dental Service, Dept. of Veterans' Affairs, for Manitoba, of his investigations during the past several months of self-curing acrylic resins as filling materials. Dr. Buchanan's investigation and conclusions were practically a complete contradiction of a condemnatory report received earlier in the season from the Krause Brothers of Milwaukee. Dr. Buchanan's report was received by the Society with great satisfaction.

The luncheon hour had the Minister of Health and Public Welfare, Honorable Ivan Schultz, K.C., as the guest speaker. Before the Minister's speech, Dr. Terry Cooke, reported on the fluoridation possibilities of the City's water supply, and the Minister in his speech seemed quite impressed with the altruistic attitude of the Winnipeg dental profession in its efforts to prevent dental caries, and complimented the dental profession at large in Manitoba for its preventive efforts during the past quarter century.

The April meeting was addressed in the afternoon of the 9th, by Dr. J. C. McMaster, Medical Director of the Manitoba Medical Service. Dr. McMaster described the system used in Manitoba, and the systems used in Great Britain and New York State, for dental service.

This meeting was also the occasion for the annual election of officers for the 1951-52 year. The new executive is as follows: President, Dr. J. O. Brown; Vice-President, Dr. E. Wallace; Clinic Chairman, Dr. Frank Jones; Secretary-Treasurer, Dr. A. V. Johnson. Dr. T. Cooke and Dr. Z. Kasloff completed the executive.

The golf and curling committee's reports were received and were adopted.

Dr. Cooke reported to this meeting re-



DR. LORNE E. RIDDOLLS
Orthodontic Club of Toronto, 1951-52

sults of an interview that Dr. Rumberg and he had had with the City Health Advisory Committee, and the Director of Medical Service, Dr. Lougheed. It was agreed that something could and should be done in the near future towards the fluoridation of the city water.

It was also announced that Dr. J. Freeman is to give a course of lectures in connection with Civil Defence, on the handling of fractures of the facial bones, including the mandible, maxilla, and the malar and zygomatic bones. The course will include suturing and anaesthesia.

The telephone course used by members of the Society during the past year will be resumed in the Fall, the total cost being \$14.00 per member.

J. F. M.

ONTARIO

The Orthodontic Club, Toronto, has just concluded its twenty-third season with one of the most successful programs since its inception. Eminent orthodontists who were visitors at the progressive Department of Orthodontics, Faculty of Dentistry, University of Toronto, were essayists of the club and presented subjects of unusual scope and interest.

On October 12 the essayists were Dr. John Heath, Melbourne, Australia, who presented his philosophy of orthodontic therapy.

At the November meeting, the guest



DR. ARNOLD D. A. MASON

essayist was Dr. Alfred Paul Rodgers, Boston. Following a dinner in his honour, on November 8, Dr. Rodgers was made an honorary member of the Orthodontic Club and is the fourth recipient of this honour. In his address of acceptance Dr. Rodgers referred with feeling to his two years' undergraduate tuition at the University of Toronto.

On this occasion, Dr. Ernest Ballard, Director of Research, Post Graduate School, London, England, was also present and participated in the question and answer forum, conducted by Dr. Rodgers upon the subject "Myotherapeutic Action of the Facial Musculature and the Mandibular Articulation."

Dr. William Olin, Iowa City, Iowa, was the speaker at the meeting on December 7 and presented a paper illustrated by lantern slides upon the subject of "Cleft Palate Therapy."

On January 30 Dr. Paul Husted, Inglewood, California, was the clinician, and gave an interesting presentation of the accessories used with the universal appliance in orthodontic therapy.

The essayist at the meeting on March 16 was Dr. Robert E. Moyers, Professor of Orthodontics, Faculty of Dentistry,

University of Toronto. Dr. Moyers presented a paper on mixed dentition analysis, stressing the diagnostic value of the tooth size and sequence of eruption.

Other activities of the club during the year included financial support towards the establishment of the Grieve Memorial Library in the Department of Orthodontics, Faculty of Dentistry, University of Toronto, and a motion picture study of an unusual case which permitted an open view of the muscles of speech, deglutition and mastication. This film was shown to the members of the club at the final meeting for the season on April 11, by Dr. Ernest Hixon, under whose direction the film was made.

Dr. Colton Bliss, President, and the other Executive officers were the recipients of hearty congratulations from the members of the club.

The newly elected officers for the coming year are: Past Pres.: Dr. H. Colton Bliss; President: Dr. Lorne E. Riddolls; Vice Pres.: Dr. Harold E. Leslie; Secy.-treas.: Dr. J. T. Crouch.

The Ladies Auxiliary to the Academy of Dentistry held their March meeting at Prince Arthur House, St. George St., Toronto, and the guest speaker was Mrs. Elizabeth Addie of the Ann Harris Interior Decorating Studio.

This was a most interesting lecture and quite appropriate for a spring meeting.

Refreshments were served at the close of the meeting.

Congratulations to Dr. Arnold Mason, dean emeritus of the faculty of Dentistry, University of Toronto on his election to honorary life membership in the Academy of Medicine, Toronto. Dr. Mason is so widely known in the profession across Canada all of whom will applaud this deserved honour that has come to him.

The Dental Alumni of the University of Toronto held their annual dinner on April 2 in the ballroom of the Royal York Hotel. More than 200 were present to enjoy a good dinner and splendid program. There were representatives present from Windsor, Hamilton, Oshawa, Midland and a number of other centres throughout the province.

Dr. William Breslin, President of the Alumni, was toastmaster and he performed his duties with dispatch, dignity and good taste. Among those with him at the table of honour was Mrs. Breslin, Dr. Sidney Smith, President of the University, Dean Ellis and Mrs. Ellis, Dr. and Mrs. Ashley Lindsay recently of Ching-tu, China, and Dr. and Mrs. J. C. Fullerton. Excellent entertainment was

provided which rounded out by a few short addresses made up a very pleasant evening. Dr. Cec. Strachan of London presented Mrs. Breslin with flowers on behalf of the executive committee.

Judging from applause the address given by President Breslin struck a sympathetic note. It was most impressive because of his personal enthusiasm and his sincerity of purpose. Part of it at least bears repeating and here it is:—"Now that I have covered the year's activity, I could conclude at this point and remain a good fellow. But I cannot conscientiously relinquish this chair without expressing a thought about this Association and its perspective on the future of dental education. I am expressing my own personal opinion while at the same time reflecting the wishes of many of the graduates with whom I have discussed dental problems throughout the country.

"Most of us in this ballroom received our education in the building which we know as 230 College St. Whether it was the Dental College of the Royal College of Dental Surgeons, or the Faculty of Dentistry of the University of Toronto, the facilities were those established for a generation of forty or fifty years ago. That it has seen us through two world wars and two postwar rehabilitation periods, it should not be assumed that it will suffice for further emergencies, or even the normal requirements of dental health in Canada. That dental disease is a most important problem facing the health ministry of the country was admitted by the Minister of Health at the opening of the Canadian Dental Association Headquarters last February. We of course know how important it is and for that reason are in the best position to insist that we must move forward with general progress in Canada.

"We cannot help being envious of our sister universities as they expand and modernize their dental departments. We can be excused if we show impatience with our lot, when we note new structures reaching into the sky on our very own campus. We too, must have proper modern facilities to attract the right men and women to study dentistry for the future needs of our country. And we can ask unashamedly that such a structure fitting our role in the health scheme of Canada be considered seriously.

"We of the dental profession differ from the graduates of other faculties only because we fail to acquire the great wealth and the political power which seems so necessary for such a project. Yet in the spheres in which we move, we reach the pinnacle of success and importance, the equal to many who control vast industrial empires. I am sure



DR. J. C. FULLERTON
President Dental Alumni Association, 1951-52
University of Toronto

that any hundred dentists who are active in the organizational field, could very well succeed in any financial or industrial endeavour which they might pursue, whether it be the rubber, the steel or the merchandising field.

"This difference to which I refer can be easily recognized in the freshman year of this University. If we look at the freshman of the Arts, the Sciences or other faculties, we know that from their ranks will eventually come the prime ministers, the cabinet ministers, the judges, the teachers, the bankers, the industrialists, the diplomats, in short the power of the country. And in contrast, if we examine the incoming class of the dental school, we know that eventually we will get dentists from them, good, bad and indifferent though they may be, but dentists just the same. And if the student is fortunate to spring from a family where the father was a prominent leader in the profession, then the most we can expect from him, is that he maintain the standard set before him. It is, however, an entirely different matter for graduates of other faculties, who often reach the top of the business and industrial world through an opportunity that mere inheritance affords.

"In the consideration of philanthropic interests, it is a simple matter for those who control large enterprises to donate a sum of money to the University or

some other institution. It becomes a mere book-keeping entry to be approved by a Board of Directors of the company. There is hardly any comparison in the sacrifice which the dentist must make of his personal income, when he contributes a modest sum to the same causes. In the long run I believe the scale balances when the contributions are considered proportionately but that does not provide a new building on the University campus.

"We of the dental profession know the urgent need of a new dental building in our University. Our minister of health at Ottawa is aware of the valuable place dentists occupy in the health scheme of Canada. Our minister of health in this province, Dr. Phillips, realizes the value of improved dental care and adequate dental personnel. Should we not invite these worthy gentlemen to a meeting with the dentists who can speak for us and further invite the Board of Governors of our University so that the case of our dire need can be presented to the powers that control our destiny and emphasize to these worthy gentlemen that the time for uncertain delay in providing new and improved accommodation must come to an end?"

"I leave that to you, ladies and gentlemen, as a challenge and I believe the time for action is here now."

Dr. Breslin, having completed his year of office, he will be remembered as one who gave a year of hard work and conscientious service. He has made a splendid contribution for dentistry in the University by his energetic leadership.

Dr. J. C. Fullerton was elected the new president and his slate of new officers is as follows:—First Vice-President, Dr. J. E. Tilson; Second Vice-President, Dr. J. A. Marshall, Belleville; Third Vice-President, Dr. Cecil Strachan, London; Secretary, Dr. Roy Kerr, Toronto; Treasurer, Dr. Harry Bateman, Toronto.

Executive members are as follows:—Dr. R. C. Moore, Toronto West; Dr. William Cavanagh, Toronto Centre; Dr. R. Freeman, Toronto East; Dr. D. Lipman, Toronto North; Dr. R. Rollaston, Toronto Downtown; Dr. I. Brill, Timmins; Dr. A. Kaukinen, Sudbury; Dr. R. A. Torrance, North Bay; Dr. N. Hutchinson, Port Arthur; Dr. J. E. Macartney, Ottawa; Dr. W. W. Baxter, Hamilton; Dr. M. Campbell, Chatham; Dr. S. G. Werry, Oshawa; Dr. W. J. Tackaberry, Owen Sound; Dr. L. J. Fenech, Windsor; Dr. S. L. Honey, Welland; Dr. H. Long, Peterboro; Dr. J. A. Sagar, Brisbane, Australia.

Several dentists curled at **Thirtieth Annual Hamilton Bonspiel** in the 64 rink 'Spiel held in Hamilton on March 5, 6 and 7, 1951.

Dr. C. T. Mason '31 skipped a Thistle Rink and won the main event, the Hamilton Spectator Trophy.

Al. Hord skipped a Class '19 Dental Rink to victory in the Wilcox Memorial Trophy and they won silver salvers donated by the Steel Company of Canada. The rink consisted of Jay MacLaurin, Art Poag, Geo. MacPhee and Al. Hord. They defeated Dr. Wright's Rink of London in the Final with W. Joynt '37 playing third.

Ken Phillips '27, R. F. Rogers '31 of Welland and Elmer Amos '09 of Brantford took part in the Spiel.

Then last but not least was Ben L. Toombs, '08 Tufts, playing second on the powerful Winnipeg Rink skipped by E. Sowerby. The Winnipeggers won the Seagram Trophy. Ben Toombs promised to give the details of their win at the next Western Canadian Dental Convention.

A. R. Poag

On March 12 the **third annual Children's Dental Public Health Day, in Ottawa**, was sponsored by the Ottawa Dental Society and directed by a very capable chairman, Dr. W. M. Myles. The main purpose of this day is to help parents to understand the importance of preventive dentistry. In the afternoon, a well attended meeting was held in the Chateau Laurier Hotel. Addressing the meeting were Dr. John J. Day, Medical Health Officer for Ottawa, Dr. Patrick J. Maloney, Paediatrician, and Dr. G. Nikiforuk. The prevalence of decay, the importance of retaining the deciduous teeth for their proper lifetime and the most effective methods of caries prevention were discussed by these speakers. In the evening, at the dinner meeting of the society, Dr. Nikiforuk spoke in considerable detail about the causes and prevention of caries, including the use of ammoniated dentifrices, good oral hygiene, and the topical application of sodium fluoride. Dr. Nikiforuk is a graduate of the University of Toronto and is, at present, a member of the teaching staff of that University. Dr. A. Stinson, President of the Society, presided at this meeting.

The **graduating class from the Faculty of Dentistry**, University of Toronto, were given a send-off banquet at Hart House on April 20. The guest speaker for the occasion was President A. S. Moore of Victoria University.

Extra-mural lectures conducted by members of the Faculty of Dentistry staff were given at:—

Renfrew to members of the Renfrew County Dental Society by Dr. D. S. Moore on April 14.

Milton to members of Halton County

Dental Society by Dr. G. T. Milton on April 4.

Timmins, Kirkland Lake, North Bay, Sudbury, Sault Ste. Marie and Port Arthur to members of local societies by Dr. J. E. Moser during the period from April 13-23.

Clinton to members of Huron County Dental Society by Dr. E. P. Downton on April 18.

Dr. S. A. MacGregor was guest of Dayton Dental Society at Dayton, Ohio, on April 2.

Dean R. G. Ellis was guest speaker before the Connecticut State Dental Association at New Haven on April 27.

Dental Fees:—At a recent meeting held by St. Catharines and District dentists under authority of the Niagara Peninsula Dental Association, it was unanimously decided that a general increase in fees was necessary to offset rapidly rising costs. A new minimum Fee Schedule was adopted to take effect immediately.—St. Catharines Standard.

Essex County Dental Association Bulletin brings its members up to date on doings down Windsor way. Dr. Christian-son of Detroit gave a splendid clinic and paper before 35 members of the society on February 22.

Dr. Murray Campbell of Chatham gave a fine presentation of his Hydrocolloid Impression Technique for inlays on March 29. Dr. F. J. Fenech of Windsor was up to London on March 17 presenting a clinic on Endodontics. Dr. Ted Wachna had many little items of local interest in his Bulletin and it all helps to keep the group moving along with a common interest. Keep going Ted.

The Toronto Study Club of Dental Technicians have had several good meetings this year. One evening was devoted to a program presented by the club members.

Mr. Sam Furie presented a clinic on tooth carvings when he displayed soap carvings to scale. Mr. Furie stressed the need for practice to perfect the art of carving and its value in all phases of a technician's work.

Mr. Ben Sweet gave a practical demonstration in the lift-off technique in cast partial denture construction.

Mr. Bill Spence gave an interesting demonstration in bridge construction using the hydrocolloid technique. He demonstrated ways of obtaining models from impressions and the trimming and preparation of dies. He showed the time saving possible and the accurate opera-

tions that could be performed by using this technique.

Mr. Geoffrey Tebbutt gave a demonstration on one piece castings for Bridge-work. He illustrated his techniques for waxing, using plastic rods to give strength to wax patterns. Mr. Tebbutt indicated the use of rubber dam to condense wax.

This meeting was much appreciated by all members and a vote of thanks was tendered to those providing the program.

A second meeting of the Study Club was held on March 14 when members were instructed by a technician from a well known gold manufacturer. Members found the technical knowledge presented relative to the handling of gold was most interesting and valuable

The London Dental Society had Dr. L. J. Fenech of Windsor, Ontario as its guest speaker on March 17. It was the fourth meeting of the year and was held at Hotel London. Dr. Fenech gave a most informative lecture on Endodontia which he illustrated profusely with coloured slides, x-ray slides and motion pictures. Dr. Doug Stiles presided at the business meeting following the dinner. Dr. Duncan Ferguson presented a Life Membership to Dr. S. A. Moore on behalf of the Society in recognition of his efforts on behalf of the London Dental Society and Canadian Dentists as a whole. Dr. Moore being a past president of both the London Society and the Canadian Dental Association, in his reply related to the interested group, many incidents taking place during his terms of office with particular reference to the formation of the Canadian Dental Corps. Dr. Moore has recently retired from the active practice of Orthodontics in the city.

Dr. W. J. Downer of Toronto has left for the far Arctic to provide dental service to Canadian and American weather-station personnel. This is the third successive year that this expedition has been made. As the operators of these weather stations have a tour of duty of about 2 years, it is a great moral booster to have at least an annual visit from the dentist. Dr. Downer has had experience flying in the north as a pilot and this trip undoubtedly had much appeal to him.

QUEBEC

In view of the Annual Meeting of the Canadian Dental Association being held in Ottawa in September, it has been unanimously agreed by the members of the **Montreal Dental Club** to hold the **Annual Fall Clinic on November 21, 22**

and 23, 1951. This, as usual, will be held in the Mount Royal Hotel and the Director, Dr. M. L. Donigan, announces that the program is well under way and we suggest that this is a good time to mark the dates off your appointment book.

The regular monthly meeting of the club was in the form of a dinner meeting and was held on March 20 with approximately 75 members in attendance. The speaker of the evening, Mr. Henry Cavill, of Montreal, presented a very timely subject, "The Dentist and His Income Tax Problems." With the many questions poured at Mr. Cavill, it was obvious that the members were extremely interested in the subject, and I am sure that had Mr. Abbott been present, his heart would have warmed at the sight of so many of the profession earnestly endeavouring to find ways of increasing the income of his government.

The president, Dr. C. R. Seller, presided at the meeting. R.F.H.

Endodontic Service is an essential in the modern practice of dentistry, stated Dr. Henry Kaiser of Columbus, Ohio, to the members of the **Montreal Endodontia Society** on March 13. Guest speaker at an afternoon and evening meeting of the society, Dr. Kaiser stressed that as conservation of dental tissue is essential, no one technique is applicable for all cases. With these thoughts implanted in the minds of his audience, Dr. Kaiser showed admirably by the use of slides, drawings and motion pictures many and varied techniques for the preservation of teeth with pulpal and apical involvement.

As an aid in the determination of the length of the tooth, Dr. Kaiser presented a simple calculation which he has been using with some success. Briefly, it can be explained as follows: From the x-ray, let "A" be the length of the shadow of the tooth and "B" the length of the shadow of the file in the tooth; "C" is the actual length of the file and "X" the actual length of the tooth. Therefore, $X = AC/B - 1\text{mm}$. Subtraction of the one millimeter eliminates an error of that amount which seems to be constant.

In one demonstration, Dr. Kaiser showed the opening of an anterior tooth and the obtaining of a culture after lightly broaching the canal. Following the further cleaning of the canal to the apex and thorough washing, a second culture is obtained from beyond the apex. If both cultures are found to be negative, and no symptoms are presented, then the canal may be filled at the second appointment. The use of a smear examined under the microscope is also an aid at this stage. Dr. Kaiser feels that 43% of anterior teeth treated fall into this category.

With regard to the filling of such canals, Dr. Kaiser feels that the use of silver points simplifies the procedure considerably. A point the exact length of the tooth as determined by the previously mentioned calculation, is used to coat the walls of the canal with the cement sealer, placed to the apex and then forced to its final position: this results in a silver plug inlay closing the apical foramen. The rest of the canal is now filled with gutta percha in the usual manner. If the x-ray is satisfactory, then silver point and gutta percha are drilled out of the canal just beyond the cervical margin of the tooth and the area filled with cement, etc. As Dr. Kaiser stated, if the filling is not as it should be, then it is comparatively a simple matter to remove it.

With regard to medication, the speaker mentioned that overmedication is responsible for as many sore teeth as is mechanical irritation.

A film was presented showing the operation of immediate sterilization and apicoectomy as well as many interesting slides of the remarkable results obtained by the use of calcium hydroxide; this latter may be used to great advantage in fractured anterior teeth with pulp involvement—even two to three days following the accident: here the coronal portion of the pulp is entirely removed under aseptic conditions, the bleeding controlled and calcium hydroxide placed over the pulp tissue, either in powder form or mixed with a drop of local anaesthetic: a cement is used to cover this.

At the dinner which divided the afternoon and evening presentations, the deans of the Dental Faculties of the Université de Montreal and McGill University both stressed the cooperation between the Montreal Endodontia Society and the universities and praised the latter's practice of inviting guests to attend its meetings. The president, Dr. Louis Rosen, spoke of the encouragement given by the universities and thanked them for their continued cooperation and the use of their facilities. Dr. E. T. Bourke extended the thanks of the members to Dr. Kaiser for his fine presentation.

The meeting was held in the Cercle Universitaire, Montreal.

R.F.H.

The Mount Royal Dental Society held an all-day clinic on February 16, at which Dr. James D. Purvis, Associate Professor of Operative Dentistry at University of Toronto, was the guest clinician. Dr. Purvis, who read a paper on "The Modern Concept of Operative Dentistry," was introduced by Dr. Druckman.

The morning session was devoted to the reading of the paper, while during the afternoon session Dr. Purvis illustrated his talk with numerous excellent slides and table clinics, following which there was a discussion on amalgam restorations, plastic filling materials, and direct gold inlays.

In his opening remarks Dr. Purvis emphasized that the developments in dentistry in the past 100 years should make us proud of our profession. He traced the growth of operative dentistry through the development of silver amalgam and the cast gold inlay. He pointed out, however, that increased awareness of dental health by the public necessitates stock taking and the profession must now place emphasis on prevention. At the hub of prevention is restorative dentistry.

Restorative dentistry with the aim of prevention requires careful oral diagnosis and treatment planning, the prime requisite being a firm grasp of periodontal problems. For a good diagnosis a thorough examination with mirror and explorer is essential. This examination must include a careful check for caries, periodontal lesions, mobility of teeth and occlusion. It must be followed by a full mouth radiographic survey including apical and bite wing films. No diagnosis can be thorough without an investigation of dietary habits, lactobacillus count and careful examination of the soft tissue for tone, colour, etc.

The treatment plan as outlined by Dr. Purvis should begin with a prophylaxis, including scaling and packing where necessary. Poor restorations must be replaced and newly involved teeth restored, with the prime objective being restoration of the arches as a whole. Dr. Purvis then outlined the requirements of a good restoration with emphasis on cavity preparation, contact points, contour and occlusion. A properly prepared cavity will have smooth walls, a flat seat, undercuts for retention, and will be extended for prevention. A good restoration will show proper contour which will harmonize with the anatomical contour of the tooth, will have contact points properly placed and not have contact areas, the surfaces will be gently rounded and the embrasures will be intact and without overhang. The restoration should have a compatible occlusion with marginal ridges, sluiceways and spillways for proper mastication of food. In cases where missing teeth are restored with fixed bridges the pontiacs should have wide embrasures and in proper occlusion with functional contact with underlying gingiva. Overfunction and underfunction are equally bad, and a restoration with a poorly carved occlu-

sion may lead to an adopted centric. While on the topic of occlusion Dr. Purvis explained the use of the Hickock retruder for recording accurate bites. Discussing the prevention of the loss of weak teeth, Dr. Purvis stated that teeth that are mobile or weak should be splinted with teeth of similar function. Anterior teeth may be splinted with pinledge inlays which should have adequate incisal bevel and snug castings. Extensively filled teeth should be avoided for splinting. In cases where a 2nd molar is lost the opposing tooth should be splinted to prevent extrusion and pocket formation.

In closing, Dr. Purvis pointed out that regardless of efforts of the dentist, oral health involves careful oral hygiene on the part of the patient.

At the close of the afternoon session Dr. Purvis was thanked by Dr. M. Levitt.

This Society spent an exceptionally enjoyable and informative day on March 16, when Dr. S. Charles Brecker, Assistant Professor of Operative Dentistry at New York University and Chairman of the Ceramics Department of the Post Graduate School of the 1st District Dental Society of New York was the guest clinician. Dr. Brecker was introduced by Dr. Pearson and immediately launched into his topic "Porcelain Jacket Crowns and Bridgework," which he delivered with such dynamic force that he kept his audience interested during the entire morning and afternoon sessions. He emphasized from the very beginning that his paper would deal with practical cases which the dentist sees in his office every day and not the "typical" porcelain jacket preparation which is always found in all books on restorative porcelain work. Both morning and afternoon sessions were illustrated by excellent slides and motion pictures dealing with porcelain jacket preparations on teeth that do not conform with the "text book normal."

Dr. Brecker began his paper with an outline of the fundamental steps of essential procedures in jacket preparation emphasizing the need for good anaesthesia, selection of instruments, proper instrument grasps, copper band selection, impression taking and suitable temporary restoration. He strongly recommended that sufficient time be allotted for appointments so that everything begun is completed in a sitting.

In outlining the actual preparation of a tooth, Dr. Brecker dealt first with the so-called "normal" upper anterior but merely to facilitate an outline of the steps and instrumentation of the preparation.

His first warning was not to prepare the shoulder too far below the gingiva. The gingival attachment must not be cut

and there should be no bleeding during the preparation. Overextension into the gingival crevice with laceration of the gingiva will lead to gingival recession, pain following the preparation and the danger of infection with the final result of exposure of the gingival margin of the jacket. Up to the age of 25 the gingival shoulder should be prepared in the coronal enamel. The entire preparation must be such that the jacket will be of near-equal thickness all over, the lower anteriors should exert their force at right angles and if there is a cingulum present on the lingual of the upper it should be maintained along with as much of the anatomical form of the tooth as possible. The first step should be the disking of the mesial and distal up to the gingiva without any attempt to taper. Tapering should not be done until the end when a slight taper is made during smoothing with sandpaper discs.

The lingual shoulder can then be made in the form of a groove using an inverted cone stone in the straight or contra-angle handpiece. The lingual shoulder need not go subgingivally at all. The lingual is then reduced with a stone and the cingulum rounded off with a pencil stone. The labial shoulder is then prepared also as a groove with an inverted cone stone run from mesial to distal just slightly below the gingival margin. With this as a guide the labial enamel is reduced with appropriate stones. As the last step reduce the incisal only if necessary, using sandpaper discs. The whole is then smoothed and the shoulder evened with end cutting burs or Bastian files.

A proper band is then selected by the use of a wire around the neck of the tooth to obtain the correct circumference. This avoids the forcing of bands into the gum during selection and keeps tissue damage at a minimum. The band is then annealed to prevent springiness and distortion of the impression and the band filled with compound heated to the correct temperature in a water bath. Direct flaming of the compound is inadvisable. A hole may be cut into the labial of the band. This will serve to eliminate excess compound and also mark the labial surface of the impression.

In the selection of the shade of the jacket, Dr. Brecker cautioned that the kind and degree of illumination and the colour of the walls of the operating room will have a profound effect. He suggested that the dentist ascertain that his shade guide has not faded and is of the same kind as used by the technician. To eliminate doubt the shade guide should be sent to the technician for his use. He advised that the patient be cautioned that the shape of the lip, the

type of lipstick, and the colour of the gums are all factors in colour determination and that different colours and intensities of light will effect the colour of the jacket so that it may be of different shades in daylight and in the evening.

Dr. Brecker strongly recommended a try in at the biscuit bake stage when necessary adjustments can be made. During cementation, if the stump is discoloured or if a gold cone is used Dr. Brecker suggested that Fink's Pacifier be used to paint over the stump. The vital tooth should always receive several coats of copalite before cementation. Dr. Brecker then went on to describe and illustrate preparations of teeth that do not conform to the "normal." He laid great stress on the fact that the size of the shoulder has no bearing on the strength of the jacket. Strength is obtained by a near equal thickness of the jacket throughout and colour deviations are thereby also avoided. A shoulder should be prepared wherever possible but an incomplete shoulder or even a shoulderless preparation or mere semblance of shoulder is sufficient.

Dr. Brecker pointed out that there is no one method of preparation of teeth that are not normal. The preparation depends on the anatomy, condition, and position of the tooth. He then outlined four types of preparations of the shoulder that may be resorted to conform with those conditions.

1. Shoulders of unequal width are indicated in malturned, overlapped or badly spaced teeth.
2. Semblance of shoulder are indicated in peg shaped laterals, pointed canines, teeth with constrictures or erosions or bill-shaped anatomy.
3. Shoulder on one surface only is indicated in peg shaped, eroded or previously filled teeth.
4. Shoulderless types indicated where there is exposed cementum, triangularly shaped teeth and fractured children's teeth.

Non-vital teeth deserve special considerations. All should have a gold core in the root for strength but gold thimbles or coronal cores may be indicated.

In case of gold cores in the coronal portion a labial window filled in with a suitably shaded plastic may be used. In cases of teeth that have been previously restored with Richmond type crown, the crown need not be removed but a preparation made directly on the crown and a jacket placed over it.

In conclusion Dr. Brecker outlined five methods of correcting spaces between the anteriors by use of porcelain restorations.

1. Widening of MD diameters of teeth.
2. Multiple jackets on all anteriors.

3. Fusing two jackets over one preparation.
4. Devitalization with off-centre gold core.
5. Metal framework with acrylic facings.

Dr. George Zimmerman thanked the clinician for his instructive and inspiring lecture which was delivered with great enthusiasm.

PRINCE EDWARD ISLAND

A limited program for the application of sodium fluoride on the teeth of children of three years of age, living in Charlottetown, will be undertaken under the Division of Dental Public Health of the Dept. of Health and Welfare.—P.E.I. Guardian.

NEWFOUNDLAND

The Annual Dinner meeting of the Newfoundland Dental Association was held at the Newfoundland Hotel on March 3. Out-of-town members present were Dr. H. Giovanetti, Bell Island; Dr. H. M. Brown, Bonavista; and Dr. W. L. Goodwin, Harbour Grace.

Regret was expressed by all members on the unavoidable absence of the President, Dr. T. E. Harris, due to illness. The usual business was conducted with the Vice-President, Dr. W. L. Goodwin, occupying the chair.

Dr. E. P. Kavanagh reported on his recent visit to Toronto and meetings held there concerning the question of a National Examining Board. Much discussion followed on this report.

Election of officers for the ensuing year resulted as follows.

President, Dr. A. B. Kennedy; Vice-President, Dr. W. L. Goodwin; Secy.-Treas., Dr. G. E. Mallam.

Dr. H. McKenna and Dr. A. Hilligher from the Department of Health, Dental Services, thanked the members for their cooperation in the endeavours in Public Health Dentistry in the province.

A most enjoyable evening and successful annual meeting was concluded with the singing of the National Anthem.

G. E. M.

Nutrition in Newfoundland:—A nutrition program was first organized in this province in 1947 under the auspices of the Department of Public Health and Welfare.

The program is patterned along two main lines: (1) nutrition education—as a long-term measure; (2) direct measures to improve the diet generally as well as the provision of supplementary foods to certain vulnerable groups.

Since July 1944 all white flour imported into Newfoundland has been "enriched" by adding three members of the "B" group of vitamins, also iron and calcium. This provides for the addition of not less than 500 mg. per pound of flour in the form of edible bone meal, specially prepared for human consumption.

In 1932 margarine was fortified with vitamins "A" and "D." Its present fortification level is 45 I.U. vitamin "A" and 1 I.U. vitamin "D" per gram.

Concentrated orange juice and cod liver oil are distributed free to certain vulnerable groups. The orange juice contains not less than 60 mg. vitamin "C" per fluid ounce and is supplied to the distribution centres in gallon tins. The oil is supplied in eight ounce bottles and has a potency of 2000 I.U. vitamin "A" and 100 I.U. of vitamin "D" per gram.—Dept. of Health and Welfare, Ottawa.

BRITISH COMMONWEALTH NEWS

GREAT BRITAIN

A Surgeon Looks at Socialized Medicine:—The Editor of "Intelligence Digest" quotes an eminent surgeon, aged 50, who holds one of the senior appointments in the whole British Commonwealth and has been on the staff of no fewer than 10 London hospitals, as follows:—

"First, the doctors regret the impression given overseas, and to people at home who have had little to do with illness, that, until this plan came into force, the poor could not have proper medical attention. For very many gen-

erations, anybody and everyone in Britain who suffered from any genuine or serious illness, could have free medical treatment from the top men in the country at the voluntary hospitals. The maintenance of these hospitals called forth the very best from the doctors' characters and from public generosity. The contributions made by both sides were character-making actions.

"The doctors are now overwhelmed by people who have suddenly become conscious of every ache and pain. The consequent pressure is so great that much serious illness is overlooked by default. Moreover, the doctors are afraid that,

before many years have passed, Britain may be a nation of hypochondriacs.

"Another symptom which is worrying the doctors is the absolute abandonment, in one sweeping gesture, of all family responsibility and sense of sacrifice, one for another, when illness comes. The State provides from conception to the grave, both inclusive. No longer need the young and healthy make the slightest effort to save or provide for the sick or aged at some personal sacrifice. The new order in medicine fits pretty well into the "couldn't care less" philosophy. Unhappily, it has also spread to the doctors.

"More doctors have thrown up the sponge since the new plan than at any time in medical history. The new merit award encourages the yes-man who is prepared to curry favour with the official ruling bodies. Instead of a healthy struggle for success, based upon the maximum knowledge and achievement, the time-server can get the maximum pay with minimum qualifications, shelving responsibility and with his eye on a golf ball. Why bother, if one is overworked and underpaid for the trouble, when by rubber stamping one can avoid work and get the maximum State emolument?

"The general practitioner is now inclined to think only about getting the maximum number of "units" in his practice—an outlook which goes far to undermine the old doctor-patient relationship so vital to this great profession. He cannot live without a large number of "units." If he has them, he cannot attend to them, because every ache and minor pain comes his way. He is offhand with the foolish and is too tired to treat the genuinely ill. Moreover, he can send patients to hospital with a stroke of the pen, escape all responsibility and, incidentally, save his own nerves and health from wreck.

"He has his wife and children to think of.

"The general mass of G.P.s may well become overworked officials instead of the backbone of family life, able and anxious to render their utmost service to the really sick.

"The G.P. is forced to overload the hospitals. The consultants and specialists in hospitals, finding themselves burdened with a vast mass of trivial ailments, cannot devote themselves to their proper job. They are becoming more and more dissatisfied. They, in time, throw the cases to a junior. They cannot do otherwise.

"There is no more aggregate illness in Britain than ten years ago—or five years ago—yet the doctors are worn out, the hospitals are overwhelmed, serious cases

are at the ends of long waiting lists, and the whole plan has cost a vast sum of money. Above all, a great profession has been gravely discouraged.

"The British doctors say to America: "Don't follow on this dangerous path"; and to the British Government: "Undo what part of the damage you can, before worse happens, and this great profession is reduced to a rubber stamp security job for the mediocre boy who hasn't a scrap of individuality or ambition."

"The medical profession had failings? Of course it had, and always will have. That is inherent in human nature. But as a free profession it had a large amount of vocational sense in it. The family doctor was the Englishman's first friend; the consultant and specialist the envy of the entire world, for their advice and skill were sought by the sick of every country within reach, and their knowledge contributed to all the historic medical developments of the world."

According to the London Daily Telegraph and Morning Post of February 22, **a London dentist received more than £20,000 from the National Health Service** in less than one year. The report by the London Executive Council states that "One dentist who has not reported the employment of an assistant, received fees totalling £20,516 net for the period April 1, 1950 to February 15, 1951." "Net" an official of the Council explained means after deducting superannuation and other contributions such as to the local medical committee. From the dentists' point of view it is a gross salary, 52 per cent of which is allowed by the Ministry of Health for expenses, and makes the annual net income exceed £10,000. An official states that this is the highest experienced but that there are others on the records approaching it.

SOUTH AFRICA

Alleged Shortage of Dental Surgeons:

—At the laying of the foundation stone of the new Dental School of the University of Pretoria it was stated that Africa needed 11,000 dentists. It was pointed out by the dental profession that there were two and a half million whites and nine and a half million natives, coloureds and Asiatics in the Union served by 900 dentists; that 60 dentists are being graduated annually and that a small number enter from overseas schools. It was further pointed out that less than 25 per cent of the European and markedly less than 1 per cent of non-European seek dental treatment and that the distinction between the need for dental treatment and the demand for it is the crux of the whole problem. It was also

stated that to provide all those who seek dental treatment with a service of "tolerable accuracy" would require approximately 1200 dentists compared to the 900 odd at present in practice. It is believed that no marked increase in the

demand for dental treatment can be expected until the public is better educated concerning the value of dental health and the State establishes a satisfactory National Dental Health Service which is not contemplated at the present time.

GENERAL NEWS

Social Security in Sweden:—"Nearly 10 per cent of the national income of Sweden is spent on some form of social security, the American-Swedish News Exchange reports. More than 75 per cent of the total, approximately \$420,000,000, is paid by the government out of the general budget, from income tax or indirect taxation. Twenty years ago the government spent one-sixth of its total revenue on social security compared to the one-third it now spends.

All recent social reforms in Sweden have been supported practically unanimously by all shades of opinion in parliament, the Exchange reports. "The guiding principles in social legislation today is to give every citizen the assistance and protection to which he is entitled as a member of society," the report states. "It has further been generally accepted that dependents should also be covered, that increased costs of living should be taken into consideration, and that social security fees should be kept as low as possible."

Under the old-age pension law all citizens are entitled to a basic pension of 1,000 kronor a year without a means test at the age of 67. Invalids, widows and those suffering from prolonged sickness also receive pensions. Most of the expenses for the national pension scheme are paid by the government but a small annual pension fee ranging from six to 100 kronor a year, is paid by every Swedish citizen between the ages of 18 and 66. All parents resident in Sweden are entitled to 300 kronor a year for every child up to the age of 16, irrespective of the parents' income.

C.D.A. War Memorial Scholarship Award:—The Canadian Dental Association Executive has ratified the title for the 1951-52 competition for this Award. The subject is "Psychology in Dental Practice."

NRC's Dental Committee Reviews Year's Work:—A two-day session of the National Research Council's Associate Committee on Dental Research was held in Ottawa, 8-9 March 1951. Purpose of the meeting was to review work

done under grants-in-aid from the Committee by dental research workers at the universities across Canada.

Attendance which included representation from five provinces was as follows:

Dr. R. G. Ellis, (Chairman), Dean of the Faculty of Dentistry, Univ. of Toronto, Toronto.

Dr. J. S. Bagnall, Dean, Faculty of Dentistry, Dalhousie University, Halifax.

Dr. H. K. Brown, Chief, Dental Health Division, Dept. of National Health and Welfare, Ottawa.

Dr. E. Charron, Dean, Faculty of Dental Surgery, Univ. of Montreal, Montreal.

Dr. O. W. Ellis, Dept. of Metallurgy, Ontario Research Foundation, Toronto.

Dr. M. H. Garvin, Editor, Journal of the Canadian Dental Association, Winnipeg.

Dr. A. W. Ham, Prof. of Anatomy, Faculty of Medicine, Univ. of Toronto, Toronto.

Dr. H. R. MacLean, Lecturer, Faculty of Dentistry, Univ. of Alberta, Edmonton.

Dr. J. J. Rae, Dept. of Chemistry, Univ. of Toronto, Toronto.

Dr. D. L. Thomson, Dept. of Biochemistry, McGill Univ., Montreal.

Col. E. M. Wansbrough, Director of Dental Services, Royal Canadian Dental Corps, Ottawa.

Six visitors were also present by invitation, to read reports of the projects being carried forward under their direction with financial assistance from the Committee.

Eighteen projects were reviewed ranging from chemical mechanisms in dental caries, and fluoride content of enamel and dentine, to methacrylate inlays and fillings, and a study of the normal and abnormal physiologic forces in the oral cavity. In connection with this last named subject, a strain-gauge equipment used for the measurement of forces in orthodontic work was demonstrated. The strain-gauges are applied to each tooth in the arch, and in this way it is possible to separate and measure the forces imposed by orthodontic appliances, to an accuracy of 1/15000th of an inch.

Histology of tooth germ development is being studied in Halifax, while in To-

ronto, research workers are investigating the closure of space following premature loss of deciduous teeth, nerve block, relation between adrenal cortical hormones and growth of bones and teeth. Others are working on the mechanisms concerned in the deposition of lime salts formed in bridging over a pulp exposure, and in Montreal, work is proceeding on calcium metabolism in the tooth, with the aid of tracer calcium.

It was decided to set up a list of new projects on which it is considered that research should be done in the dental field, and to publish this list continuously in the proceedings of the Committee, until the subjects have been investigated or eliminated for good reason.

Grants-in-aid for 1951-52 include twelve projects, of which three, all to be carried on at Toronto, are new. Names of the research workers with their subjects of study are:

Dr. Gordon Nikiforuk, Associate Prof. of Paedodontics, Dept. of Dental Research, University of Toronto, Toronto, Ont.—Demineralization of hard tissues as bone and teeth by organic chelating agents.

Dr. R. E. Moyers, Professor and Head, Department of Orthodontics, Faculty of Dentistry, University of Toronto, Toronto, Ont.—Studies in the electromyography of the head, face and neck.

Dr. K. J. Paynter, Faculty of Dentistry, University of Toronto, Toronto, Ont.—The effect of Thiouracil on the development of molar teeth of rats.

Two applications for Dental Research Fellowships were approved:

Dr. Gerald Shklar received an award of \$1,500 to continue his studies in oral pathology and bacteriology at Tufts College Dental School;

Dr. Willa L. Liu (Chou) was given an award of \$2,200 to study the migration of tooth germs before and during mixed dentition, in the department of orthodontics at the University of Toronto. This is the first year in which dental research fellowships have been granted.

A few changes in the membership of the Committee were recommended to the Council. To replace Dr. O. W. Ellis and Dr. J. K. W. Ferguson, both of whom had completed the permitted two terms, the Committee nominated Dr. A. C. Burton, Professor and Head of the Department of Biophysics, University of Western Ontario, London, Ont.; and Dr. J. D. Hamilton, Professor of Pathology, Queen's University, Kingston, Ont.

Dr. J. B. Macdonald, who had served only a few months in succession to Dr. C. B. Stewart, was nominated for a full three-year term from 1 April 1951.

At the suggestion of Dr. C. J. Mac-

kenzie, President of the National Research Council of Canada, both Dr. R. G. Ellis, (Toronto), and Dr. E. Charron, (Montreal), who had completed their normal terms of office, were renominated for a further three-year period. The Director of Dental Services, Department of Veterans' Affairs, was added as an ex-officio member, thus providing representation on the Committee from each of the three Government departments that have large dental establishments.

The next meeting of the Committee is to be held on 27 September, 1951, in Ottawa, and if there is sufficient business in hand to warrant it, the Committee will sit for two days.

Michigan to Hold Workshop on Periodontal Disease:—A Periodontal Disease Workshop will be held in Ann Arbor, Mich., September 10-15, planned jointly by the faculties of the School of Public Health and the School of Dentistry of the University of Michigan.

The conference, the third of the University's workshop conferences, will utilize the technique of consultant and group participation, in an attempt at critical appraisal of current information in five areas: (1) behaviour of gingival and supporting tissues; (2) local factors in periodontal disease; (3) systemic factors in periodontal disease; (4) treatment of periodontal disease; (5) prevention of periodontal disease.

Survey of Dental Profession in U.S.A.—In response to a growing need for definitive information on various aspects of dental practice, early in April of 1950 questionnaires were sent to more than 20,000 dentists throughout the country, as reported in the April A.D.A. Journal. Approximately one-fourth of the respondents reported had a degree (non-honorary) in addition to the dental degree. More than nine out of 10 dentists held the D.D.S. degree, the remainder holding the D.M.D. degree.

Possession of x-ray equipment was reported by over nine out of 10 dentists. To the question, "Do you use a full-mouth x-ray in making your original diagnosis and treatment planning?" 27.4 per cent answered "always" and 48.4 per cent answered "frequently."

One-fifth of the respondents operated on a cash basis, the remainder using some kind of a postpayment arrangement.

Full-time auxiliary personnel were employed by almost two-thirds of the dentists. The total number of full-time employees of United States dentists may be estimated as follows: dentists, 1,900;

hygienists, 3,600; technicians, 3,300, and assistants, 55,200.

According to the survey, mean monthly salaries paid to these personnel were as follows: dentists, \$513; hygienists, \$236; technicians, 264, and assistants, \$149.

Dentists employing no dental assistant, hygienist or technician averaged only 37.8 patients during the week, compared with 51.7 for dentists employing one auxiliary and 63.8 for dentists with two auxiliaries.

The mean number of weeks worked in 1949 by all survey participants was 46.5.

Based on results of the survey, it is conservatively estimated that 60 million persons, or 40 per cent of the population, saw the dentist in 1949.

Based on the survey findings, it is estimated that approximately the following number of dental services were provided to the people of the United States during the week of April 16 to 22, 1950: examinations, 640,000; roentgenograms, 1,600,000; prophylaxes, 610,000; teeth extracted, 1,040,000; fillings and inlays, 2,870,000; single crowns, 50,000; fixed bridges, 40,000; full dentures, 100,000; partial dentures, 60,000; root canal treatments, 60,000; periodontal treatments, 110,000; orthodontic treatments, 150,000, and fluoride treatments, 50,000. Dentists of course provide many services not covered by this survey.

Penicillin in the Prevention of Post-extraction Bacteriemia:—In the April A.D.A. Journal, Merrill, Vivino, Dowling and Hirsh report their findings on a group of patients requiring dental extraction as follows: "A group of 130 patients were divided into two groups. One group received 600,000 units of penicillin in wax and oil three to four hours before extraction, the other served as a control. Teeth were extracted and blood cultures were obtained immediately, 10 minutes and 30 minutes after extraction, incubated aerobically and anaerobically and then studied for the presence of bacteria.

"In the control group, 46 per cent of the patients developed bacteriemia. In 34 per cent the organism identified was an alpha or gamma streptococcus. Six patients had positive cultures for the same organism at more than one of the periods studied. In the penicillin treated group, 37 per cent had bacteriemia. Alpha or gamma streptococci were isolated from the blood of 15 per cent of the patients. Two patients had bacteriemia at more than one period.

"Since bacterial endocarditis is such a

serious infection it behooves the dentist to attempt to prevent the bacteriemia which follows dental extraction.

"A tentative plan of penicillin prophylaxis has been evolved from available studies and consists of daily injections of 300,000 units of procaine penicillin G preparation two days before and two days after extraction. As an additional precaution, the extractions should be performed under local anaesthesia incorporating epinephrine. Manipulation procedures should be kept to an absolute minimum. It would appear that there are no precautions necessary regarding the number of teeth that may be extracted at one time."

Penicillin in Dentifrice:—Lind and Zander reported in the February issue of the Journal of Dental Research that the daily use of penicillin in a dentifrice for two years did not induce the proliferation of penicillin-resistant strains of streptococci and staphylococci in the throats of children.

The Effect of Urea and Diammonium Phosphate on the pH of the Tooth Surface:—William Lefkowitz and Arnold J. Singer outline a technique for measuring the pH of the tooth surface in the April issue of the N.Y. State Dental Journal. A summary of their results indicate the following:

The rinsing with water or ordinary cosmetic dentifrice suspension does not affect the surface pH of the tooth. On the other hand, an oral rinse with a solution containing 3 per cent urea and 5 per cent diammonium phosphate causes a transient elevation of the pH of the tooth surface and the effect is dissipated within one hour. Finally, rinsing with a solution containing 13 per cent urea and 3 per cent diammonium phosphate profoundly elevates the pH of the tooth as measured at the surface and maintains the elevation for periods in excess of two hours.

Canning with Antibiotics—Pro and Con:—The most exciting possibility to appear before the canning industry for a long time is the recently suggested method of preservation with antibiotics. The basic idea is not a new one as attempts along lines of "easy canning" have been made previously. Successful canning of certain vegetables is reported using a combination of 5 to 20 ppm. subtilin, an antibiotic derived from *Bacillus subtilis*, and mild heat consisting of boiling water for about ten minutes.

A great deal of developing still re-

mains to be done before the new method of processing, showing a record of 100% effectiveness plus a safety factor, can be presented to the canning industry. It is felt that those antibiotics which have

a medicinal significance have a very limited future in canning as continued ingestion of these might render the consumer insensitive to them in time of need.—Food Industries.

If you took things easy during the winter, don't jump too enthusiastically or vigorously into such activities as gardening. Go at it gradually and get into condition before you start the real hard work.—Health League of Canada.

It is related of a learned judge, that he once praised a retiring witness in the following words: "You are entitled to great credit, sir. You must have taken infinite pains with yourself. No man could naturally be so stupid."—(1872).

Be studious in your profession and you will be learned. Be industrious and frugal and you will be rich. Be sober and temperate and you will be healthy. Be in general virtuous and you will be happy. At least you will, by such conduct, stand the best chance for such consequences.—Benjamin Franklin.

What the children of our country need are not specialists, diplomats or certificants, but just good general practitioners, commonly known as plain dentists. Until we are convinced to the contrary, this position we firmly maintain without compromise of any kind whatsoever. In sacred behalf of the health and happiness of every child, we warn our colleagues to stop, to look and to listen. We urge our fellow dentists to leave no step unturned in having the American Dental Association rescind its potentially disastrous pronouncement that Dentistry for Children is a specialty of practice. The child belongs to everyone.—Joseph H. Kauffmann in *Bul. of N.Y. State Soc. of D. for Children*.

IN MEMORIAM

George Herbert McKeown of Ottawa, Canada, aged 63, died suddenly in hospital on March 26.

Dr. McKeown was graduated from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1908. Following graduation he practised in Winchester for a time, later moving to Ottawa where he continued until just before his death.

Dr. McKeown was a prominent Ottawa citizen. He was an Elder in Knox Presbyterian Church; a member of Ottawa Kiwanis; Dalhousie Lodge A.F. & A.M.; Murray Sovereign Chapter, Rose Croix, Ottawa Lodge of Perfection, Kitchener Chapter of Russell and Karnack Temple, Montreal.

Dr. McKeown was an ardent curler of the Glebe Club, and a past officer of the Ottawa Dental Association.

He is survived by his widow and two sons.

Samuel Rosen of London, Ontario, aged 50, died March 28, after a prolonged illness. He was graduated from the Faculty of Dentistry, University of Toronto, in 1927 and for some years practised in New York City. For the past fifteen years he has practised in London, Ontario.

Dr. Rosen is survived by his father, three sisters, and one brother.

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Robert J. Yeo of Winnipeg, Manitoba, aged 66, died suddenly at Whitemouth, March 20. He was graduated from the University of Pennsylvania in 1911 and practiced in Winnipeg until he retired three years ago due to ill health, except the time he served in the Canadian Army Dental Corps 1914-1919.

At one time he was chairman of the Greater Winnipeg C.C.F.

Dr. Yeo is survived by his widow and one son.

Le Journal

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Service dentaire d'un Sanatorium*

par ROBERT DePLAEN, B.A., D.D.S., Lachine

Nous venons de recevoir le rapport annuel de l'hôpital du Sacré-Coeur pour l'année écoulée.

Je voudrais, sans m'attarder, vous donner quelques chiffres avant de passer à la partie dentaire.

L'Hôpital compte environ 875 lits, se divisant en 600 lits pour tuberculeux et 275 lits pour le service d'orthopédie.

Au cours de l'année passée, il a été traité 3,491 malades, se classifiant en 1275 tuberculeux et 1993 en orthopédie.

Ce rapport donne les statistiques des divers services et je vais vous donner celui du service dentaire:

Consultations:	2,000
Extractions:	1,100
Obturations:	475
Traitements:	208
Dentiers et réparations:	672

Ces chiffres vous montrent un peu l'importance de cet hôpital et aussi une idée de ce qu'il se fait dans le service dentaire.

Comme vous pouvez le remarquer, le nombre d'extractions est presque le triple des obturations; cette constatation veut dire la fréquence des édentés.

Le docteur de Montigny a mis en marche avec le Service Social un moyen pour créer un fonds qui servira aux soins dentaires des pauvres, qui ne peuvent rien payer.

L'idée est excellente, car un grand nombre de ces indigents doivent perdre

leurs dents et ne peuvent les faire remplacer. Cette maladie sociale, qu'est la tuberculose, crée des problèmes de toutes sortes, dont le moindre n'est pas l'aspect pécuniaire. Vous vous demandez, peut-être, si la tuberculose favorise une polycarie élevée?

La tuberculose, tout comme les autres maladies décalcifiantes, produit des troubles lors de la formation de la dent et favorise les conséquences logiques qui s'ensuivent.

Mais la tuberculose, après la formation de la dent, ne paraît nullement favoriser la polycarie et voici trois faits, qui semblent prouver cette assertion:

1. Après avoir fait griller des dents de tuberculeux et celles de sujets sains, on a trouvé un coefficient minéral semblable dans l'un et l'autre des cas, c'est-à-dire 66%.
2. Si la tuberculose invitait la décalcification des dents, nous aurions un pourcentage bien variable suivant l'évolution de la maladie.

Voici les statistiques suivantes:

- a) lors de lésions tuberculeuses en évolution, le pourcentage est de 28.1%;
- b) lors de lésions tuberculeuses stabilisées, le pourcentage est de 29.1%;
- c) lors de lésions tuberculeuses stabilisées par pneumo le pourcentage est des 23.4%.

*Causerie prononcée à l'occasion d'une réunion médico-dentaire de la Société Dentaire de Montréal, le 20 février 1951.

Le pourcentage de caries pour gens sains était environ de 25% entre 20 et 30 ans.

3. Les personnes contractant une tuberculose tardive ne présentent pas plus de caries qu'avant leur maladie.

En somme, la carie dentaire chez le tuberculeux est dominée par l'état de labilité ou de stabilité du tissu dentaire.

La période de labilité donne l'hypocalcification et dans la période de stabilité elle devient l'exception.

Voyons maintenant la tuberculose au point de vue osseux.

Cette maladie attaque le tissu spongieux de l'os jeune.

Cette attaque se produit le plus souvent par voie sanguine.

Cette affection est celle de l'enfance ou de l'adolescence et n'est le plus souvent qu'un des nombreux foyers.

C'est le tissu conjonctif intra-osseux qui se congestionne (aspect lie de vin), puis il s'amollit (aspect gris opalin) pour enfin se nécroser (aspect jaunâtre).

Par voie dentaire la tuberculose osseuse est très rare.

Les deux formes sous lesquelles elle se présente sont les suivantes:

- 1) sous forme centrale
- 2) sous forme sous-périostée.

1. *La forme centrale.* C'est au niveau des angles que se produit une tuméfaction, qui finit par aboutir et d'où s'écoule un pus granuleux, qui est caractéristique chez les tuberculeux.

2. *La forme sous-périostée.* Celle-ci est plus fréquente mais très difficile à diagnostiquer, si on ignore que le sujet est tuberculeux.

Toutefois, la jeunesse du sujet, l'absence de douleur et de trismus, le début lent et surtout la fistulisation de la lésion, l'apparition de fistules cutanées et le pus typique, qui s'en écoule, peuvent nous mettre sur la piste.

Toutefois la tuberculose des maxillaires est rare.

Au point de vue muqueux, la tuberculose se présente sous trois formes: l'ulcération, le lupus, la gomme.

1. La gomme tuberculeuse est très rare et elle se localise sur le bord de la langue en avant du V lingual.
2. Le lupus est un ensemble de petits tubercules, mous, de couleur gelée de pomme, qui s'ulcèrent bien vite.
3. L'ulcération est plus fréquente.

Elle se place dans toute la bouche, débute par une rougeur, puis devient semblable à une plaque jaune pour finalement s'ulcérer.

L'ulcère présente des bords découpés, peu saillants et recouverts de débris jaunâtres et autour desquels des petits points jaunes viennent apparaître.

Au niveau des lèvres, elles sont rares mais plus fréquentes sur les gencives.

Au niveau de la langue, elles sont particulièrement douloureuses et entraînent une haleine fétide et une grande salivation.

Son traitement se fera par le couteau électrique, sinon, par des rinçes-bouches à l'eau thymolée (1/2-1/2).

En terminant je vais vous donner d'une façon brève quelques remarques:

1. *La différence marquée dans l'extraction des dents de patients relevant de l'orthopédie et ceux de tuberculose.*

Ces derniers présentent une dent plutôt lâche dans son alvéole, tandis que les autres ont des dents avec une hypercementose marquée due aux traitements médicamenteux qu'ils subissent.

2. *Au point de vue prise d'empreintes.*

Il y a une variation bien marquée dans le volume des gencives, qui oscille entre les poussées de température.

3. *Au point de vue traitement des canaux chez les tuberculeux.*

Le mauvais terrain voue les traitements à l'échec.



Le contrôle de la douleur en dentisterie

par FRANCOIS CARDIN, B.A., D.D.S., Pointe-Claire, Qué.

Un contrôle absolu de la douleur comprenant à la fois prévention et élimination est-il possible dans l'exercice de la profession dentaire?

Voilà certes une question à laquelle on nous trouverait téméraire de donner une réponse définitive, tellement le problème est complexe, et la perspective d'une solution éloignée.

Cependant malgré les progrès remarquables constatés ces dernières années, les essais prometteurs de nos contemporains, il reste que plusieurs tentatives infructueuses témoignent avec éloquence du travail immense qu'il reste à faire pour obtenir un contrôle même relatif de la douleur dans les procédés dentaires, tels les interventions sur dentine hypersensible, les cavités profondes enfin tous les travaux de dentisterie opératoire ou de couronnes et ponts.

Voilà pourquoi il ne sera pas question ici d'interventions chirurgicales ou d'avulsion, puisque incontestablement l'anesthésie locale ou générale s'est avérée le seul moyen efficace pour obtenir le résultat désiré.

IMPORTANCE

Il est donc d'une importance souveraine que nos recherches s'orientent vers l'obtention d'un contrôle aussi parfait que possible de la souffrance physique.

Mais il restera toujours selon nous cette douleur morale, cette crainte de la douleur qu'on ne saurait faire disparaître avec des procédés purement techniques. Et c'est cet aspect du problème qui fait que la douleur doit être étudiée comme phénomène subjectif aussi bien qu'objectif.

Alors pour mieux embrasser ces deux aspects du problème, on nous permettra de faire une revue aussi complète que possible des diverses techniques modernes dont l'application expérimentale a montré des résultats excellents, à savoir l'application topique de médicaments, la congélation de la fraise par jet de CO_2 , le

creusage par jet de particules d'oxyde d'aluminium (Airdent), cela pour l'aspect objectif de la douleur. Puis nous signalerons à l'attention du lecteur quelques conseils de psychologie pratique, d'hypnotisme dont l'application peut certainement prendre soin du côté subjectif de la douleur dans un grand nombre de cas.

Enfin nous indiquerons les raisons de notre préférence pour l'emploi judicieux de l'anesthésie locale dont l'application courante a donné des preuves d'efficacité et de rendement d'autant plus évident qu'elle est à la portée de tous les membres de la profession.

DISCUSSION

La douleur.

La douleur selon Behan (1) "est l'interprétation d'un processus anormal et généralement nuisible, produit au sein de l'organisme. Elle ne peut être correctement classifiée comme une sensation mais, plutôt, elle peut être considérée comme le résultat de la perception et de l'interprétation de la sensation par l'esprit".

Cette définition répond donc aux deux aspects de la douleur que nous nous sommes donnés pour but d'étudier. En effet la perception d'une sensation désagréable pourra être modifiée dans son intensité par l'interprétation propre au sujet en cause, selon sa résistance physique et ses dispositions psychiques.

D'autre part, certaines interventions sur la dent, tel le meulage et le fraisage, produisent au sein de la dentine une douleur due à des perturbations d'ordre physiologique dont l'effet ne saurait être amoindri par le contrôle de ses nerfs. La douleur est vive et insupportable. Et on doit à plusieurs auteurs des explications qui les ont groupés en deux écoles différentes.

Les premiers, dont Black, Tomes, Gysi, Walkoff et autres, soutiennent que

"la fibre de Tomes, par la sensibilité de son protoplasme, transmet l'irritation aux odontoblastes qui sont eux-mêmes entourés de très petits nerfs" (2). Et c'est la pression mécanique, la tension ou la torsion du liquide incompressible contenu dans les odontoblastes qui, selon eux, déterminerait une sensation désagréable aux stimuli envoisinants. (2)

La deuxième théorie, dont les tenants principaux sont Boll, Dependorf, Turkheim, Romer et autres, enseigne l'existence de très petits nerfs dans la dentine. Cette théorie a l'avantage d'expliquer la sensibilité de certains points de la dentine pendant que d'autres endroits sont absolument insensibles sur la même dent. Voilà pourquoi et avec raison, conclut le même auteur, (3) le dernier mot n'est pas dit. Les deux théories ont du bon, et en acceptant la présence de nerfs dans la dentine il est logique de supposer que le liquide incompressible du protoplasme de la fibre de Tomes transmette la pression aux nerfs qui l'entourent et cause une douleur bien avant que la pression soit transmise aux odontoblastes.

Il suffit donc d'anesthésier en quelque façon ces terminaisons nerveuses pour arriver à un fraissage sans douleur.

Mais pour y arriver il fallait que la méthode employée réponde à certaines conditions: aucun dommage à la pulpe, effet rapide et constant, pas de douleur, ni décoloration.

Les médicaments.

Une multitude de médicaments, tous très différents les uns des autres, par leurs propriétés chimiques ou physiques ont été mis à l'essai. On s'est servi de substances qu'on prétendait pouvoir précipiter le protoplasme de la fibre de Tomes dans des conditions d'assèchement parfait, mais alors il fallait que la carie n'obstrue pas les tubulis dentinaires.

Ce fut un échec quasi total. Le chloroforme, l'acide benzoïque, la créosote, l'alcool, l'éther, le chlorure d'éthyle, le formaldéhyde, l'eugénol, le phénol et bien d'autres furent soumis à des expériences. A cela, ajoutons la solution dite de Hartman et le Custodin. Mais toujours on obtenait un effet inadéquat ou

un dommage plus ou moins néfaste à la pulpe.

Le Custodin cependant s'avéra le meilleur procédé au point de vue de la durée de l'effet, soit de 7 à 10 minutes; de plus l'application n'est pas douloureuse, comme c'est le cas pour la solution de Hartman. D'autre part, certaines solutions avaient des propriétés nettement nuisibles à la pulpe. (4)

De nos jours, ces solutions ne sont que peu employées; toutefois si jamais un chercheur parvenait à trouver une formule adéquate, elle serait selon nous la plus pratique et dépasserait de beaucoup par sa simplicité d'application les appareils plus ou moins compliqués dont il sera maintenant question.

L'appareil Warapa.

Au début de la présente décade, le mérite revient à l'Université Basle, en Suisse, d'avoir fait connaître au monde dentaire un espoir d'obtenir une solution définitive au problème de la douleur causée par le fraissage dans la dentine.

Hans Rudolf Tschopp, élève du Dr O. Muller de la dite université, nous révèle dans une dissertation pour l'obtention de son doctorat en dentisterie les merveilles de l'anesthésie de la dentine par l'emploi de la fraise congelée par CO₂.

Si on en croit ce distingué confrère, l'appareil Warapa, dont il se fait un fervent propagandiste, produit par la congélation de la fraise un épaissement de l'albumine de la fibre de Tomes et celle-ci peut être coupée sans pression ni succion, partant sans douleur. (4)

En effet, 81% des patients traités avec cet appareil témoignent d'une absence totale de sensation douloureuse, tandis que 19% y voient une diminution importante. (5)

De plus, l'appareil a cet avantage que la fatigue, les nausées causées par l'anesthésie locale sont absentes, de même que les risques de bris d'aiguilles ou autres accidents anesthésiques du genre (6). Enfin un dentiste habile y trouvera une économie de temps—ce dont nous doutons—un meilleur rendement, et cela moyennant un déboursé de quelques sous de plus de la part du patient.

Le Warapa demeurera cependant un appareil trop compliqué pour être mis à la portée de tous les praticiens. Et c'est selon nous une des raisons qui en ont limité l'emploi dans les cliniques expérimentales. Il serait trop long de décrire ici l'appareil, d'analyser sa manipulation et son fonctionnement; à cette fin, on pourra consulter la brochure à laquelle nous référons en bibliographie.

Tant et aussi longtemps qu'un appareil du genre comportera des difficultés de manipulation plus grandes que celles auxquelles le dentiste est habitué, il sera ignoré par la grande majorité des membres de la profession.

Il n'y a pas un dentiste qui ne veuille opérer sans douleur, mais il veut aussi y réussir par des moyens qui lui éviteront de prolonger inutilement le séjour du patient sur son fauteuil. Certes, de belles expériences peuvent être tentées dans nos cliniques publiques, où le temps et les honoraires ne comptent pratiquement pas. Mais une fois arrivées à la pratique professionnelle, les méthodes doivent être aussi simples que possible tout en étant efficaces.

L'appareil Airdent.

Aux Etats-Unis, il y a quelques mois, le Dr G. Black, de Corpus Christi, a pour sa part rendu public le résultat de huit années d'expériences avec cette machine qu'on appelle Airdent. La nouvelle fit sensation et personne n'ignore les résultats merveilleux qu'on attribue à l'emploi de cette foreuse nouveau genre.

Si on en croit le Dr Ralph Summer, de l'Université de Michigan, d'ici quelques années, on parlera de la fraise métallique en usage de nos jours comme d'un objet voué à la légende des mauvais souvenirs. Le conférencier, que nous avons eu l'occasion d'entendre à l'Université de Montréal au mois de novembre 1949, signala cependant que pour se conformer à certaines particularités techniques de l'appareil on devra reviser et modifier les formes de cavités reconnues les meilleures de nos jours, celles décrites par le Dr G. V. Black. Nous n'avons pas eu l'avantage de nous renseigner comme nous

l'aurions désiré sur l'efficacité de l'Airdent, mais à la suite de certaines autorités en la matière, on devra produire avec cette foreuse une cavité analogue à celle obtenue couramment avec une fraise, un ciseau ou une hachette.

Qu'on arrive à supprimer la douleur associée au passage sur un fauteuil dentaire, très bien, mais il faut tout de même conserver aux différentes restaurations dentaires le caractère de permanence obtenue en grande partie par la forme de contour et de retention des cavités.

De plus, puisque contrairement aux autres méthodes étudiées précédemment, le Airdent n'a en aucune façon la propriété d'anesthésier la dentine; la découverte de l'appareil donnera peut-être naissance à une nouvelle théorie pouvant expliquer le processus douloureux du forage dans la dentine.

On comprend très bien que l'Airdent soit d'une efficacité extraordinaire pour le taillage dans l'émail, entendu que plus la résistance est ferme plus le jet est puissant. Et là où l'Aident devient une véritable révélation c'est quand il nous permet de traverser le joint énamo-dentinaire sans aucune douleur. Mais la grande objection naît du fait qu'il est pratiquement impossible, si non très difficile, d'obtenir les angles bien déterminés dont nous avons besoin pour la retention de notre obturation. Serait-il alors nécessaire d'intervenir avec une vulgaire fraise métallique pour terminer le travail. C'est alors qu'il faudra utiliser toutes les cordes de son arc pour faire consentir le patient à souffrir un peu pour nous permettre de compléter un travail qui devait être opéré sans aucune douleur.

Autre risque auquel devra se soumettre le patient: n'a-t-on pas dit qu'après huit années d'expériences on est encore à se demander si l'absorption de particules d'aluminium pourrait causer la silicose? (7) C'est un problème sérieux, mais il nous semble qu'avec l'emploi de la digue la quantité d'oxyde d'aluminium absorbée devrait être assez minime pour ne pas nuire à l'organisme.

"Les dentistes", toujours d'après le Dr Ralph Summer de l'Université du Michi-

gan, "n'auront pas le droit de se porter acquéreur d'un appareil Airdent sans avoir au préalable suivi un cours spécial pour en bien connaître le maniement." (8)

Voilà qui est certes un inconvénient qu'on ne devra pas minimiser, si on considère le nombre imposant de dentistes qui seront par là privés d'un instrument destiné à la pratique générale. Qu'un spécialiste soit astreint à faire des études poussées pour lui permettre de mieux posséder sa matière, rien de plus normal. Or il est reconnu que la dentisterie opératoire constitue depuis plusieurs années déjà la grande partie des services dentaires.

Il nous reste donc à souhaiter que les initiateurs de cette découverte, de concert avec les manufacturiers d'instruments se hâtent de mettre au point un appareil à la fois simple et efficace, pouvant être mis à la portée de tout dentiste soucieux de se perfectionner, sans pour cela suivre un cours de perfectionnement de six mois ou plus.

Psychologie.

Etudions maintenant les moyens de combattre la douleur subjective, c'est-à-dire celle qui dépend dans une certaine mesure de la résistance du patient, de son comportement psychique. La crainte de la douleur n'est pas un caprice de la part du patient. Et bien plus, on ne doit pas en rejeter le blâme sur le patient seulement mais au contraire sur la négligence du dentiste surtout. Ainsi s'exprime le Dr Stewart Everson: "Le dentiste d'aujourd'hui, comme à l'époque médiévale, est toujours regardé comme un objet de crainte par ses patients pour la seule raison qu'il n'emploie les différents agents anesthésiques qu'occasionnellement ou pas du tout." (9)

Or si plusieurs patients refusent les soins dentaires qui leur sont nécessaires par crainte de la douleur, nous n'avons qu'à blâmer notre maladresse ou notre manque de psychologie. Un emploi judicieux de l'anesthésie locale ou générale joint à des mesures psychologiques adéquates rendra plus acceptables beaucoup d'interventions nécessaires. Le pro-

blème est urgent; ainsi en témoigne une enquête relatée par Burnap: "Les citoyens de la ville d'Oklahoma furent en 1942 interrogés de la façon suivante: Pourquoi tant de gens attendent si longtemps avant de voir un dentiste? Près de 50% répondirent: Crainte de la douleur." (10)

Il ne suffit donc pas seulement de faire l'éducation du peuple pour faciliter les soins dentaires, mais il faut encore et surtout faire de l'entourage du patient venu nous consulter un atmosphère de tranquillité, de repos et de confiance.

Une pièce bien éclairée, une décoration intérieure simple et de bon goût, une propreté impeccable des lieux et de sa personne, la mise hors de vue des instruments les plus révélateurs sont autant de facteurs qu'on ne devrait jamais négliger. On joindra à cela une attention délicate aux moindres questions du patient, un souci de donner des réponses adéquates et rassurantes, un vocabulaire simple, et que sais-je encore.

Puis durant l'intervention, on veillera sans cesse au confort du patient, tout en le distrayant un peu sans pour cela perdre une minute dans l'accomplissement de son travail. La manipulation d'instruments tranchants toujours bien aiguisés devra être ferme mais délicate.

De plus, il est à conseiller de détourner l'attention du patient en lui faisant entendre de la musique appropriée en sourdine, au moyen d'un tourne-disques dont le soin serait confié à l'assistante. Une musique calme et choisie contribue ainsi à calmer les nerfs et du patient et de l'opérateur.

Hypnotisme.

Ajoutons à cela quelques notions d'hypnotisme qui ne sont pas sans avoir un résultat appréciable sur le contrôle psychique de certains patients plutôt difficiles.

De toute évidence, rares sont les dentistes qui se servent aujourd'hui de cette méthode, mais avec le Dr Aaron A. Moss, de Bernardsville N.J., sans endosser toutefois ses prédictions et son enthousiasme, il n'est pas illusoire d'espérer obtenir par l'hypnotisme un contrôle suffisant pour opérer sur une catégorie de

gens par ailleurs insupportables pour le dentiste. (11)

Par exemple, selon Moss, "son emploi est proposé premièrement pour les patients nerveux et excitables, spécialement les enfants au dessus de six ans, lorsqu'il y a une crainte et une appréhension intenses; deuxièmement, lorsque des expériences antérieures établissent des contre-indications pour d'autres anesthésiques, par exemple, un cardiaque ou une personne allergique à la novovaine ou autre médicament." (11)

Et pour arriver à un emploi judicieux de cette science voici le conseil de Moss: "Il faut d'abord savoir ce qu'est l'hypnose." Selon Estabrook: "c'est le délogement partiel ou complet de l'esprit normal conscient d'un individu pour résulter en un état de haute suggestibilité". Dans cet état l'individu peut être ou ne pas être sous l'effet d'une extase ou d'un sommeil hypnotique. Il peut être parfaitement conscient de son entourage, cependant être incapable ou impuissant à résister à la suggestion de l'hypnotiseur ou de l'opérateur. Cela, cependant en delà de certaines limites. Il existe une conception générale de penser qu'il est impossible de servir d'hypnotisme pour poser un acte criminel, nuisible, ou antisocial. Cela fait sans doute partie des limites mentionnées précédemment. Il y a aussi certaines autres limites que je ne mentionnerai pas. Toutefois, du point de vue du dentiste, il est tout à fait possible de suggérer à un patient sous l'effet d'un état hypnotique qu'il n'aura pas de douleur, ou qu'il n'aura pas de haut-le-cœur; et obtenir ainsi une anesthésie ou la suppression de vomissement suivant le cas. C'est un phénomène remarquable dont on doit être témoin pour l'apprécier totalement." (12)

Ceci dit; à ceux qui voudront tenter l'expérience nous référons la méthode préconisée par Moss dans son travail intitulé, "Applied Hypnotism for the Dentist". (13)

CONCLUSIONS

Voilà en résumé les principales tendances modernes des infatigables chercheurs de notre profession. Leur champ d'action est vaste et parsemé de difficul-

tés, aussi leur travail mérite-t-il notre encouragement et notre coopération.

Alors le succès sourira à celui qui, soucieux de rendre à sa clientèle le service auquel elle a droit, mettra en application les nombreuses méthodes mises à sa disposition pour contrôler la douleur.

Et de ces méthodes, l'anesthésie locale permet d'obtenir dans un fort pourcentage des cas un résultat excellent à condition qu'on se donne la peine de s'en servir aussi souvent qu'on en a besoin et qu'il est possible de l'appliquer. De plus, si tous les dentistes mettaient en pratique les diverses techniques d'injection enseignées de nos jours, et cela dans le détail, la crainte de l'aiguille disparaîtrait presque totalement et avec elle 99% des risques d'accidents. Notre intention aurait été de développer quelques moyens d'obtenir avec ces techniques un minimum de douleur mais nous en sommes empêchés par l'étendue forcément limitée de ce travail.

Enfin, nous répétons ici ce que nous avons exprimé précédemment au cours de cet exposé, il est à souhaiter que toutes ces découvertes successives aboutissent à la mise au point d'un appareil ou d'un procédé quelconque accessible à tous les dentistes.

Ce n'est que le jour où on en sera arrivé à ce point que nous aurons vaincu notre adversaire le plus redoutable: la douleur et la crainte qu'elle inspire.

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263 Chemin Lakeshore
Pointe-Claire.

La Société Dentaire de Montréal

CONGRES ANNUEL

Sous la présidence d'honneur du Lieutenant-Gouverneur de la province de Québec, l'honorable Gaspard Fauteux, D.D.S.

ENDROIT: Hôtel Windsor, Montréal.

DATES: 31 mai, 1er et 2 juin.

P R O G R A M M E

JEUDI, LE 31 MAI:

A.M.		
8.30 hrs	.....	Inscription (On est prié de prendre note qu'il est impossible à l'organisation d'accorder le privilège d'inscription partielle.)
10.15	.....	Ouverture du congrès.
10.30—12.30	.....	Conférence, Films.
P.M.		
12.30	.....	Déjeuner—causerie.
2.00—6.00	.....	Conférence, clinique continue (1ière tranche), cliniques répétées, films.
6.30	.....	Vin d'honneur suivi du dîner annuel de la Société. Invité d'honneur: Son Excellence le Lieutenant-Gouverneur.

VENDREDI, LE 1ier JUIN:

A. M.		
9.00—12.00	.....	Clinique continue (2ième tranche), cliniques répétées, films.
P.M.		
12.30	.....	Déjeuner des Sociétés Dentaires; Causerie.
2.15—5.30	.....	Cliniques répétées, films, conférence.
7.00	.....	Coquetel-Buffer-Danse.

SAMEDI, LE 2 JUIN:

A.M.		
9.00—11.00	.....	Clinique continue (3ième tranche), cliniques de tables.
11.00	.....	Forum.
12.30	.....	Clôture du congrès.

CONFERENCIERS:

- Dr Charles Eug. Massicotte, Chicoutimi.
 "Les deux côtés de la médaille: Problèmes qui se posent au praticien éloigné des grands centres; leurs solutions."
 M. George W. Fine, Williams Gold, Buffalo.
 "Rapport d'une enquête auprès de la clientèle dentaire sur le sujet suivant: Pour quelles raisons avec-vous choisi votre dentiste?" ou "Les détails qui peuvent affecter le succès d'une pratique."
 Dr Gaston Lajoie, Montréal.
 "Déontologie; administration."

CLINICIENS:

- Drs René Rochon, doyen, Ecole de Chirurgie dentaire, Université de Détroit.
 "Cinquante années de progrès en diagnostic buccal."
 Jean Nadeau, Université de Montréal.
 "Prothèse fonctionnelle."
 Edward M. Grevatt, New-Jersey.
 "Attaches pour ponts fixes."
 Viger Flamondon, Québec.
 "Chirurgie buccale à la portée de tous."
 Marcel Hébert et H. R. Slater, M.D., Montréal.
 "Dentisterie opératoire sous anesthésie générale pour les enfants."
 Ira E. Klein, New-York.
 "Dentiers partiels: leur préparation, leur confection."
 Roland Gendron, Université de Montréal.
 "Traitement conservateur et chirurgical des ostéolyses."

PROGRAMME DES DAMES

JEUDI LE 31 MAI:

A.M.		
12.30 hrs	.....	Inscription.
Après-midi	.....	Déjeuner d'ouverture, Causerie.
Soirée libre	.....	Parade de modes, au Cercle universitaire; gracieuseté de Dupuis Frères. Le goûter sera servi.

VENDREDI LE 1ier JUIN:

A.M.		
10.00	.....	Visite.
P.M.		
12.30	.....	Déjeuner.
3.00		Causerie et démonstration. (Soins de beauté.)
7.00		Coquetel-Buffer-Danse.

SAMEDI 2 JUIN:

Libre.



PAGES EDITORIALES

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POUR UNE BIBLIOTHEQUE VRAIMENT NATIONALE

L'installation des quartiers-généraux de notre Association dans des locaux plus vastes et plus appropriés à leurs fonctions laissait entrevoir des possibilités et permettait l'élaboration de projets intéressants pour augmenter les services à ses membres.

Depuis longtemps, les dirigeants de l'A.D.C. souhaitaient l'établissement d'une bibliothèque documentée, qui renfermerait dans ses rayons toutes les publications—volumes, revues, tirés-à-part—traitant de choses dentaires.

Les seuls obstacles à la réalisation de cette entreprise ont toujours été l'exiguïté des locaux occupés par l'Association et son instabilité financière.

Maintenant, ces deux problèmes ont été solutionnés par l'acquisition d'un vaste immeuble et par la stabilisation des finances de notre organisation.

Il faut rendre ici un hommage posthume au regretté Ken Carver, qui fut le principal réalisateur de ces deux objectifs. Sa mort prématurée l'a privé de voir de ses yeux le couronnement de ses efforts, dont la mise en acte marque une étape importante dans la vie de notre Association.

En date du 4 octobre 1950. Le Comité Exécutif décidait d'organiser une bibliothèque dentaire et dans ce but, il obtenait du gouvernement fédéral l'autorisation de constituer un fonds destiné à recueillir les souscriptions des membres et de personnes ou de Sociétés légales étrangères à l'Association. Ces argents seront contrôlés par une comptabilité indépendante et autonome et ne seront pas mêlés à la caisse générale. De plus, les donations faites à ce fonds pourront être déduites de l'impôt fédéral sur le revenu, aux conditions prévues par les lois.

L'établissement d'une bibliothèque professionnelle nationale dans un pays bilingue comme le nôtre semble susciter des difficultés, qui naissent précisément de cette dualité de langues parlées au Canada par les dentistes d'origine française et anglaise.

Nous aurions aimé voir inscrit dans le texte de cette résolution de l'Exécutif de l'A.D.C., le désir pour les proposés à ce centre de documentation d'en meubler les rayons de publications dans les deux langues.

Au contraire, le texte rédigé en anglais ne laisse même pas supposer que des oeuvres écrites de la production scientifique le langue française seront acquises.

Cependant, il est un moyen simple pour les dentistes de langue française d'exiger que leur bibliothèque renferme des livres et des revues de langue française: c'est de souscrire en grand nombre, et des montants substantiels, à ce fonds de bibliothèque, en insistant sur la nécessité d'acquérir des publications françaises pour satisfaire les besoins de tous les dentistes canadiens.

La largeur de vue qui a toujours caractérisé les décisions des dirigeants de notre Association en ce qui a trait à la langue française au profit de notre groupe ethnique, est un présage de bonne entente sur la question de la bibliothèque nationale. Nous avons été témoins nous-mêmes il y a quelques années, d'une scène éloquente à ce sujet.

Le Comité des Publications de l'A.D.C. avait reçu d'un membre de ce Comité une lettre demandant que la section française du Journal soit supprimée pour diverses raisons. Eh bien, sans que les membres de langue française présents élèvent la voix pour défendre leur position, tous les membres de langue anglaise de ce Comité s'étaient chargés eux-mêmes de mettre de l'avant des raisons qui motivaient le maintien de la section française dans notre Journal. Et ces raisons,—loin d'être d'ordre sentimental—étaient basées sur les arguments dont quelques-uns même avaient échappé à l'intelligence des assistants français.

Pour que notre bibliothèque dentaire nationale réponde aux besoins de toute la profession du pays, il faut qu'elle renferme des volumes et des gazettes écrites dans les deux langues officielles.

Tous les dentistes sont invités à souscrire à ce fonds de bibliothèque et plus considérables et plus substantiels seront les dons des confrères de langue française, plus notre centre de documentation pourra nous rendre des services bibliographiques dans notre langue.

GERARD DE MONTIGNY.

PERTE POUR LE MONDE DENTAIRE

De docteur Alcide Thibaudeau est décédé à Montréal, le 18 mars 1951, après une longue maladie.

Né à Ste-Scholastique, en 1888, il sort bachelier "es arts" du Séminaire de Ste-Thérèse pour entrer au Grand Séminaire en 1910. Mais la vocation religieuse ne l'y retient pas et, en 1915, il s'inscrit à la faculté de Chirurgie Dentaire de l'Université de Montréal pour y devenir professeur en 1920, poste qu'il occupe jusqu'en 1940.

Durant sa carrière, il fut chef du Service dentaire à l'Hotel-Dieu de Montréal, à l'Hôpital du Sacré-Coeur de Cartierville et à l'Hôpital St-Joseph, de

Lachine. De 1939 à 1946, il fut rédacteur de la section française du Journal de l'Association Dentaire Canadienne.

Depuis 1942, il avait limité ses activités aux besoins de sa clientèle.

Plusieurs générations de dentistes ont bénéficié de son esprit de travail et de sa curiosité scientifique. Pionnier de la confection des coiffes de porcelaine et de l'ionisation des canaux infectés, à Montréal, il a toujours aidé ses confrères à solutionner leurs problèmes dans ces domaines. Professeur d'anatomie dentaire, il a occupé cette Chaire avec maîtrise et ses leçons étaient toujours remarquables par leur clarté et par leurs applications pratiques.

Sa fonction de rédacteur de cette section a permis à son grand talent de se manifester à sa pleine valeur.

Son érudition, sa pleine connaissance des sujets qu'il y a traités, sa phrase bien construite et son style vigoureux ont toujours accompagné les articles scientifiques ou les éditoriaux qu'il a signés.

Le groupement professionnel de langue française du Canada fait une grosse perte.

Aussi, le Comité de Rédaction prie-t-il Madame Thibaudeau (née Aline Boulanger) ses trois fils et sa fillette d'accepter ses plus sincères condoléances dans le deuil qui les frappe.

Nous conserverons toujours un excellent souvenir du Dr Thibaudeau et nous le placerons toujours au nombre de ceux qui ont exercé une influence heureuse et profonde sur plusieurs générations de dentistes de la province.

GERARD DE MONTIGNY

SEMAINE ODONTOLOGIQUE

La présente est pour vous informer que la Semaine Odontologique (60^{ième} Congrès Dentaire), aura lieu à PARIS du 31 Mai au 6 Juin 1951 (inclus) au Parc des Expositions de la Porte de Versailles.

Le Comité d'organisation a placé cette grande manifestation professionnelle sous le titre:

"UN DEMI-SIECLE DE PROGRES EN ART DENTAIRE"

1892-1951

Il lui a semblé, qu'à l'époque où des manifestations de toutes natures tendent à faire ressortir les réalisations du dernier demi-siècle, il était opportun de mettre en lumière les résultats des efforts de notre profession, qui depuis 1892, date de la fin de la liberté de son exercice, n'a cessé d'affirmer dans tous les domaines, son évolution et ses progrès.

La Semaine Odontologique 1951 va donc revêtir une importance exceptionnelle.

Le 4^{ième} Salon Artistique marquera une fois encore la valeur et l'importance des oeuvres réalisées par nos Confrères.

La partie scientifique à laquelle collaboreront de nombreuses Sociétés et qui comprendra l'Association des Chirurgiens-Dentistes Indépendants dont le programme sera publié ultérieurement, s'annonce déjà comme excessivement intéressante.

L'Exposition du Matériel et des Fournitures Dentaires reunira pour la première fois tous les groupements de fabricants et fournisseurs dentaires.

Elle couvrira une superficie d'au moins 4,000 mètres carrés.

La Semaine Odontologique 1951 est placée sous le Haut Patronage de Monsieur le Président de la République Française et sous la Présidence d'Honneur de MM. les Ministres de la Santé Publique et de la Population, de l'Education Nationale, du Travail et de la Sécurité Sociale, de l'Industrie et du Commerce, du Secrétaire d'Etat à l'Enseignement Technique, à la Jeunesse et aux Sports.

Monsieur le Ministre de la Santé Publique procédera en personne à l'inauguration de la Semaine Odontologique et il présidera le banquet qui aura lieu le samedi 1^{er} Juin à 20 heures.

Des facilités de transport sont accordées aux Congressistes.

Des milliers de Confrères Français assisteront à cette manifestation professionnelle française. Un service de location de chambres, de places dans les théâtres et les music-halls fonctionnera.

N.B. Pour tous renseignements, s'adresser à Monsieur le Secrétaire Général de la Semaine Odontologique, 31, rue Tranchet—PARIS 8^e.

Notre profession vient de perdre un dentiste distingué et compétent

par PHILIPPE HAMEL, Québec



M. LE DOCTEUR ALCIDE THIBAUDEAU

Le dimanche, dix-huit mars, à l'aube, un chirurgien-dentiste de haute marque rendait l'âme: le docteur Alcide Thibau-
deau.

Né à Sainte-Scholastique en 1888, il poursuit ses études secondaires au Séminaire de Sainte-Thérèse où il obtient,

en 1910, le titre de bachelier es-arts. Se croyant appelé à une vocation religieuse, il entre, la même année, au Grand Séminaire de Montréal. Pendant cinq ans, il se prépare au sacerdoce et orne son esprit de toute la formation théologique et morale qui laisse sur son âme une

empreinte religieuse qu'il conserve toute sa vie.

En 1915, il se livre à l'étude de la Chirurgie dentaire à l'Université de Montréal et décroche son diplôme "Magna cum Laude." Dès 1920, il devient professeur à cette même faculté, où il enseigne l'anatomie dentaire durant vingt ans et la céramique pendant plusieurs années.

En plus de se dépenser à l'enseignement, il sert une clientèle de choix, avec une scrupuleuse droiture et un désintéressement exemplaire.

En 1922, il épouse mademoiselle Aline Boulanger, qui lui donna trois fils et une fillette: le docteur Pierre Thibaudeau, médecin; monsieur André, diplômé de l'Ecole des Relations Industrielles de l'Université de Montréal; monsieur Jacques, élève de la même école; puis Marie, le trésor de cette petite famille unie que le chagrin et l'angoisse étirent cruellement aujourd'hui et vers laquelle abondent les vives condoléances de leurs nombreux amis.

Alcide Thibaudeau devient Chef du service dentaire de l'Hôtel-Dieu de Montréal en 1935, et plus tard, en 1941, il s'occupe des cliniques dentaires des hôpitaux de Lachine et du Sacré-Coeur, de Cartierville.

Doué de talents, comme cela se rencontre rarement, Alcide Thibaudeau savait, dans son activité exubérante, les mettre à profit. Malheureusement, sa santé fut compromise durant nombre d'années par un rétrécissement nerveux, spasmodique de l'oesophage, dû à des soucis et de grandes contrariétés. Il fut contraint à une diète exclusivement liquide, ce qui l'obligea à freiner son ardeur au travail. Pénible épreuve que ce déclin de santé pour ce travailleur énergique, débordant du désir d'action. Il n'en fallait pas davantage pour affecter, pendant un temps, son humeur et la rendre parfois sombre et aigrie.

Sa profession, il l'a exercée en artiste et homme de science. Il recherchait sans cesse la perfection du fini dans son travail. Ses connaissances toujours à la page lui donnaient de l'autorité non seulement auprès des élèves mais aussi chez

ses confrères, qu'il a toujours représentés dignement, soit à l'étranger, soit chez nous. A l'Université, il était un professeur écouté et respecté, parce que ses connaissances, il les communiquait sous une forme classique avec un débit qui captivait facilement l'attention de l'étudiant.

En plus, il s'intéressait aux questions sociales et s'offrait généreusement pour la défense des bonnes causes même par des discours dans des assemblées publiques, afin d'orienter l'opinion vers ce qu'il croyait être la bonne voie pour mieux servir le bien commun.

A son foyer, on respirait l'atmosphère sereine d'un milieu chrétien où les épreuves avaient cependant frappé bien souvent sans, pour autant, en bannir l'optimisme et la jovialité aux heures de détente.

Aimé des siens, sachant, avec ses modestes ressources, leur rendre la vie heureuse, Alcide Thibaudeau mettait des talents au service de sa famille et de ses amis, une fois son devoir d'état largement rempli. Il peignait à l'huile de reposantes scènes rustiques pour le décor de son vivoir, ou encore donnait à des volumes une reliure de luxe pour orner sa bibliothèque ou être agréable à un ami. Electricien, il confectionnait des appareils pour l'ionisation ou bien montait des radios d'un rare perfectionnement. A sa villa de Saint-Donat, il savait remplir habilement, à la fois, les rôles d'entrepreneur, de menuisier, de plombier, d'électricien et de maçon.

En dépit d'une santé compromise pour les raisons données précédemment, il accepta, en janvier 1937, de remplir à mes côtés le rôle de rédacteur-adjoint de la section française de la Revue de l'Association dentaire canadienne. Quelques mois plus tard, il me remplaça et jusqu'en 1945, il occupa ce poste difficile et parfois accablant pour un dentiste retenu par la clientèle et l'enseignement, de rédacteur-en-chef de la section française de notre revue nationale.

Lorsqu'on voulut, en certains milieux, abandonner la formation gréco-latine pour la préparation à l'étude des professions libérales, Alcide Thibaudeau écrivit alors plusieurs éditoriaux dans notre revue den-

taire, qui demeureront à son honneur. Il prit la défense de l'ancienne formation gréco-latine et argumentait que les études classiques avaient donné tant de preuves de supériorité sur toutes les autres formations plus nouvelles et peut-être plus pratiques en apparence, que ce serait une grave erreur même de tenter des essais déjà condamnés par l'expérience en maints pays.

Ses restes reposent désormais dans la longue nuit du tombeau, qui ne finira qu'au son des trompettes du jugement

dernier, mais sa belle âme jouit, il est difficile d'en douter, de l'éternelle récompense pour sa vie chrétienne menée sans la moindre ostentation, avec une ferveur toujours constante et profonde pour le Divin Maître et Sa Mère.

Cette biographie, pâle reflet de la vie bien remplie de ce vieil et sincère ami que fut pour moi Alcide Thibau, je l'ai écrite avec toute l'amitié que je porte à ce regretté disparu et tout le respect que je dois à la vérité.

Difficultés d'ordre physique présentées par l'application locale de solutions dans le traitement préventif de la carie dentaire

Lorsqu'une solution est utilisée en applications locales sur les dents, deux facteurs viennent s'opposer à la pénétration des molécules actives ou des ions entre les surfaces interdentaires en contact, ainsi que dans les sillons et fossettes de l'émail, ces facteurs sont: 1) la présence de salive ou d'air devant être déplacés par la solution; 2) la difficulté pour les ions et les molécules de s'introduire par diffusion dans des espaces étroits.

Pour illustrer cette théorie, l'auteur traite un empilement de billes d'acier avec une solution de sulfate de cuivre SO_4CU et constate la présence d'effets corrosifs sur toute la surface de ces billes sauf aux points de contact et dans les régions avoisinantes. (Besic, F.C., Chicago, Ill.: *Journal of Dental Research*, 29 : 285-290, juin 1950.) Il montre ensuite que la faible activité des réactions

chimiques dans ces dernières régions s'explique soit par l'action protectrice de l'air emprisonné, soit par la lenteur des phénomènes de diffusion assurant la pénétration des ions. On arrive à des conclusions analogues en observant la diffusion du bleu de méthylène en solution à l'intérieur de tubes capillaires suffisamment étroits lorsque les pointes de ces tubes sont plongées dans la solution.

Etant donné les techniques que l'on utilise actuellement dans les applications locales de solutions thérapeutiques, la troisième région gingivale, la plus aisément accessible, est celle qui paraît devoir bénéficier le plus de l'action du produit, tandis que les surfaces interdentaires et les facettes de l'émail seraient les régions qui en bénéficieraient le moins, même à supposer qu'elles en bénéficient.

Ce que je voudrais par dessus tout, c'est en mourant, ne pas laisser sans l'avoir réparée, une erreur, une injustice que j'aurais pu involontairement commettre.

Que ceux vis-à-vis desquels j'aurais pu, à mon insu, être injuste, le sachent bien. Ne manquez pas de le leur dire, par respect pour ma mémoire.

Docteur Maurice ROY—1866-1947



Courtesy Manitoba Bureau of Travel and Publicity

LYNX FALLS, MANITOBA

Among the more beautiful of Manitoba's Waterfalls

These latest inventions and discoveries have made war more terrible, and while they have given us many conveniences and comforts, they have made life more complicated
peace more difficult
and the human heart more troubled.

Undoubtedly we have improved means—
but unfortunately, we have not improved ends.
We have better ways of getting there,
but we have no better places to go.
We can save more time, but we are not making any better use of
the time we save.

Everyone agrees that we have made far more advances in the scientific world than we have made in the world of morals and ethics.

Spiritually, we have not kept pace with our program in the realm of science and invention.—*Peter Marshall*



M. LE DOCTEUR ADOLPHE L'ARCHEVEQUE
Montreal, Quebec

Past President of the Association des chirurgiens-dentistes
de langue française de l'Amérique du Nord.

Past member of the Catholic School Board of Montreal.

Past Governor of the College of Dental Surgeons of the
Province of Quebec.

Past President of the Ligue Indépendante Catholique of the
Diocese of Montreal.

Former Chief of the Dental Department of the Hôpital de
la Miséricorde.

Professor of Radiology, Chief of the Diagnosis Department
and in charge of the admission of patients, Faculty of
Dental Surgery, Université de Montréal.



The Journal

OF THE CANADIAN DENTAL ASSOCIATION

VOL. 17

TORONTO, JUNE, 1951

No. 6

Aids To Oral Diagnosis*

by HARRY A. HUNTER,† D.D.S., Toronto, Ontario

THIS is the problem of deciding whether or not an individual has some disease which may or may not show itself through recognizable signs.

When we analyse the process of making a diagnosis, we find it divided into two main parts, first, the gathering of information and second, the interpretation of this collection of facts. The more facts we have, the easier will it be to interpret their meaning and the following list of headings is a working plan designed to illustrate the point.

ORDER OF PROCEDURE IN ORAL DIAGNOSIS

1. History—General and Oral.
2. General physical examination.
3. Detailed oral examination.
4. Laboratory tests.
5. Working diagnosis.
6. Therapy.
7. Prognosis.
8. Final diagnosis.

It will be seen that the first four points listed above are concerned with assembling data and the last four points involve their interpretation. The working diagnosis is the result of analysis of all the facts and is called such because treatment is based on it, as is also a forecast of the future course of events—prognosis. Ordinarily the working diagnosis coincides with the final diagnosis, but in case

it proves to be wholly wrong or in need of modification, this last category is provided.

To arrive at a correct diagnosis, we must first gather all the pertinent information that is available to us. This is obtained in two general ways; on the one hand we invite the patient to describe in his own words the nature of his complaint, and in so doing, he may perhaps place his own emphasis on certain features, either by mentioning them first or by laying stress on them more than on others. At this point the neophyte diagnostician is cautioned against a few possible pitfalls. It may just so happen that the patient will withhold some important facts through embarrassment or shame, etc. Again, he may describe symptoms that appear to support his own ideas of what is wrong with him. One of the most difficult things to do is to recall accurately events of the past. Here fact and fancy are easily confused and the wise clinician will use careful prompting in drawing out the whole story so as not to put a leading question and thereby suggest an answer.

These data are described as subjective symptoms, because they come from the patient. On the other hand, the examiner must supplement the patient's story with his own observa-

*Presented as a lecture clinic at the Academy of Dentistry, Winter Clinic, Toronto, November, 1950.

†Associate Professor of Dentistry, Faculty of Dentistry, University of Toronto.

tions. These objective findings of his own along with the above mentioned subjective symptoms provided by the patient are then correlated by weighing their respective values and so sifting the wheat from the chaff. Here the experience of the examiner is most useful. It may so happen that some part of the patient's story is at variance with the examiner's findings, in which case it is often best to recheck this point with the patient, and then if still in doubt, disregard the patient's description and depend on the observed facts.

This first part is called history taking and is of great importance. It may be likened to a play where it sets the stage and introduces the players and, by observing their features and movements as individuals, they begin shortly to fit themselves into a complex, but coordinated and finally a recognizable pattern.

There is a series of headings that is widely used to obtain this information and to standardize its form, e.g.; after the usual filing information such as name, address, telephone number, age, sex, racial origin, religion, referred by whom?, etc., the following list is most useful. Chief complaint; present illness; past illness; family history; habits; marital status and occupation. A subdivision of the first three parts pertaining to the mouth might be made separate. In fact, from the dentist's point of view, the chief complaint is nearly always of a dental nature.

The dentist should be aware of and should include in this history any visible signs of systemic disturbances. It is true that this is the province of the physician and that he should be consulted whenever a detailed survey of a patient's physique is required. Nevertheless today it is expected of the dentist that he be aware of the gross, visible signs of the important and common systemic diseases, particularly the degenerative types seen in later life. All too often one can apply the old saying: "You can't see

the woods for the trees." By this is meant that too many of us begin and conclude our examination of a new patient with an estimate of the D.M.F. rate and what it will cost to replace the lost teeth. In the present age, where so much emphasis is being placed on prevention, we must be able not only to recognize the incipient stages of disease, but be able to forestall their appearance as much as possible. It is no longer sufficient for us to concern ourselves with the life-cycles of thirty-two individual teeth; we must survey the whole field, which in this case includes not only the detailed oral examination itself, but also its integration with the patient's general health. This may be done, in part, while talking to the patient or while listening to their conversation or description of their physical history. Take, for example, age; do their physical and chronological ages correspond? Their disposition should be evaluated; are they phlegmatic or neurotic? Their height, weight, physical development and colour, for example, are all part of this picture.

It is easy for the dentist to observe some of the outward signs of circulatory disturbances. Such things as cyanosis of the lips and other mucous membranes, oedema of the ankles and respiratory embarrassment. Puffy eyelids may suggest kidney dysfunction. The taking of blood pressure is of doubtful value in the dental office as it is a very labile state. Isolated readings are often most misleading, as a temporary elevation of the pressure may be due to such commonplace things as fear and anger which are physiological processes.

Following this general history, which should be recorded in writing and filed, a systematic and detailed examination of the mouth may be made. Any system is satisfactory so long as it is thorough and comprehensive. A suggested plan would entail a complete survey of the soft tissues starting with the lips, then the buccal, palatal and lingual mucosa and

pharynx, noting the colour, consistency, size and shape. A complete set of radiograms of both maxillae and mandible in their entirety should be routine. A study of the vitality of the pulps, percussion and mobility tests and gingival pocket depths of all teeth must be made. An evaluation of the occlusion in its broadest sense to include the development of the masticatory apparatus as a whole can be followed by a careful survey of each surface of each tooth to disclose active caries. Finally, summarize the whole situation with an estimate (not financial) of the restorative possibilities.

LABORATORY DIAGNOSIS USEFUL TO THE DENTIST

In order to avoid needless waste of time and expense for the patient, the clinician should have some reason to justify a test before he orders one. The following group of tests can be of direct value to the dentist.

1. Blood coagulation time and bleeding time used as a rough check on the chances of post-operative bleeding. It is not infallible by any means, but is useful in diagnosing some of the blood dyscrasias such as haemophilia and thrombocytopenic purpura.

2. Complete blood count represented by the following five divisions:

- (a) Total red blood cells—important in anaemia and polycythaemia.
- (b) Total white blood cells—to recognize leukopenia and leukocytosis.
- (c) Haemoglobin content — important in anaemias.

- (d) Color Index $\frac{\text{Haemoglobin \%}}{\text{Twice 1st 2 digits of RBC count}}$
 equals unity

A decrease suggests secondary anaemia, an increase suggests a primary.

- (e) Differential white count — for blood diseases.

3. Biopsy (see below).

4. Sedimentation Rate of the blood. An increased rate is not specific for any condition, but is present in acute

suppuration somewhere in the body active tuberculosis, late malignancy and in pregnancy and other conditions.

5. Bloch Test for hypersensitivity where some of the suspected material is powdered and placed against the skin for several days. An inflammation of the skin is a positive indication.

BIOPSY IN DENTISTRY

The balance of this paper will be devoted to a discussion of uses that can be made of the biopsy in dentistry.

Biopsy is the process whereby a piece of tissue is removed from a living subject to permit a microscopic examination of it for diagnostic purposes. In order to make use of this procedure to its best advantage we must recognize its proper place; It reveals the histopathology of the particular condition which is often characteristic of a specific disease. It often clinches a diagnosis; it may point the way to a rational therapy and at the same time give us good grounds upon which to base our prognosis. It is true that it is not equally valuable in all conditions, but it is specially useful in cases of tumours, cysts and the infectious granulomata, i.e. syphilis and tuberculosis. It is much less exacting in cases of non-specific inflammation, hypertrophic gingivitis and chronic ulcerations.

There are a few points to be kept in mind to avoid the possibility of an erroneous answer. If, as may happen, the piece of tissue is not representative of the lesion in question, the answer will not be applicable. This trouble generally results from taking too superficial a piece of tissue and missing the true underlying causative condition, a point that should be watched every time a biopsy is taken. Another fault that sometimes makes it difficult is the minute size of the specimen sent to the laboratory. A quarter of an inch in any dimension should be considered an absolute minimum because of the shrinkage that occurs in processing. There are some other less common faults, such as poor or inade-

quate fixation, damage from drying of specimen, physical damage during removal and occasionally cooking from using an electric cautery to remove the piece of tissue.

The question of when not to take a biopsy is one that has caused some controversy. The chief argument revolves about cutting into a known malignant tumour. The criticism is that the knife may spread the tumour cells into the adjacent tissues and thereby set up local metastases. On the face of it this sounds like a logical stand to take, but it has not been borne out in practice. It is, therefore, an acceptable thing to do, with but one or two rare exceptions, i.e. cases of known sarcoma and melanoma.

Another point raised against the surgical biopsy is that of the danger of infection. This procedure carries no more danger than any one of a number of minor operations that involve opening into the blood stream and which are part of a dentist's regular routine.

Cases where a biopsy is not recommended are where the lesion is in an inaccessible place. Here it is generally better to remove the diseased tissue in toto and send the whole specimen in for examination.

In assessing the reliability of the biopsy report as a diagnostic service, two things must be considered. First, the care with which the specimen was taken and secondly, the experience of the pathologist. If in case there should be a difference in opinion between the clinician and the pathologist, either take more biopsies or try to have the clinician and pathologist together to examine the patient, if possible. Failing this, the choice, I think, should be given to the clinician, since he is the one who has the most comprehensive view of the patient's problem.

In any discussion of the subject of biopsies, the various types must be listed and their particular advantages brought forward. The following half-dozen methods pretty well cover the whole gamut of biopsy techniques.

Surgical Biopsy. This is the commonest and most adaptable form as well as the easiest to do. Here a suitable piece of tissue is removed with a scalpel, scissors or rongeur. Do not use any electro-cautery knife as it is inclined to cook the tissue. This is the method of choice in the dental field as it embodies no new techniques unfamiliar to the average dentist.

Needle or Aspiration Biopsy. This type is limited to situations where ready access is not available such as tumour masses within bones. The procedure is to suck up some of the suspected cells after having introduced the needle point to the appropriate spot. It is not as popular or as reliable because of the limited number of cells upon which to base a diagnosis.

Frozen Section. This commends itself only from the point of speed. It is largely confined to the operating room where speed is essential. Interpretation of these sections is much more difficult than paraffin sections. It requires pre-arranged teamwork and special apparatus. Its value in the mouth is very limited.

Punch Biopsy. This again is an adaptation of a technique to certain specific areas, in this case the upper respiratory tract. Its chief criticism is the tiny pieces of tissue that are snipped off. Again, of little use in dentistry.

Smears. These can be considered a form of biopsy where a specific organism is suspected, but the complex flora of the mouth makes this method difficult to interpret. The culturing of bacteria might also be classed as a form of biopsy where their identification is established.

Sponge Biopsy. Here is a method that has been advocated recently as being suited to dentistry and one which is easy to perform. It has been recommended for cases where the operator hesitates either to use the surgical method or to arouse the anxiety and fear of the patient. In effect it is an adaptation of the Papanicolaou technique, which is based on the alteration of cells themselves rather than on

tissue masses. In applying its technique, an ulcerated surface is carefully cleaned of all debris, necrotic and granulation tissue, and inflammatory exudate and then dried with sterile gauze. A piece of Gelfoam or similar sponge material is gently rubbed over the area to soak up tissue cells and fluid. This is fixed and sectioned in toto in the usual manner for microscopic examination.

The hesitancy referred to above is due largely to unfamiliarity with the surgical technique and its advantages. It is a process that involves much less time, effort and inconvenience to the patient than an ordinary extraction and, in fact, might be compared to a single isolated gingivectomy. Any hesitancy in arousing the patient's fear in a case of a suspected malignant process is not justified as one must not temporize in such cases.

One of the limiting features of the sponge technique is that it presupposes that there is an ulceration of the mucous membrane, a feature that is not possessed by many suspected lesions.

Again, with this technique there is always the danger that unless the operator is very careful he is liable to pick up only an accumulation of surface debris which is non-specific and valueless in a differential diagnosis, all of which is going to lead to a lot of grief and false negative diagnoses.

The need for this technique in the mouth is extremely remote and is not to be encouraged at this time.

STEPS IN TAKING A SURGICAL BIOPSY

1. Select a representative site in the lesion.
2. Remove a large enough piece of tissue; i.e. 5 mm. square is a minimum.
3. Excise the specimen with a sharp instrument to minimize damage.
4. Place in fixative solution IMMEDIATELY (10% formalin).
5. Place carefully and send to the laboratory along with as complete a written history as can be provided, not only of the suspected lesion, but of the patient as a whole.

F.D.S.R.C.S. EDIN.

by J. MENZIES CAMPBELL, D.D.S., L.D.S., F.R.S.E., F.I.C.D.

THE Royal College of Surgeons of Edinburgh has a justifiably proud tradition, having been founded on July 1, 1505 by a "Seal of Cause," granted by King James IV. This was a notable achievement, thirty years prior to Caxton's invention of the wooden printing press: and, at a time when only the leading citizens of Edinburgh could either read or write.

The first outstanding link with dentistry was when Dr. John Smith delivered, in May 1856, within the precincts of the Royal College of Surgeons of Edinburgh, the first comprehensive course of lectures, in Scotland, on the *Physiology and Diseases of the Teeth*.

The next epoch-making event was the granting, by the College, of a

Licence in Dental Surgery (L.D.S.), following the Dentists' Act, 1878.

It was, therefore, appropriate that the Royal College of Surgeons of Edinburgh should emulate the Royal College of Surgeons of England, by instituting a Fellowship in Dental Surgery.

On July 25, 1949, *Honorary* Fellowships were conferred, on the late Dr. William Guy, formerly Dean of the Edinburgh Dental Hospital and School, Professor Robert V. Bradlaw, Dean of the Faculty of Dental Surgery of the Royal College of Surgeons of England, and Professor Kurt H. Thoma of the Harvard Dental School.

In 1950, it was decided that Fellowships in Dental Surgery, *without ex-*

amination, should be offered to a number of dentists, each of whom was, subsequently, officially informed that this would entail, on acceptance, the payment of an election fee of £21.

The reaction of Professor Robert H. McKeag, M.A., M.B., B.Ch., B.A.O., B.Dent.Sc., Dean of the Faculty of Dentistry, University of Ceylon, to whom it had been offered on these terms, was courteous, yet trenchant.*

As, not unnaturally, a degree of misunderstanding exists among overseas dentists concerning the *pros* and *cons*, it may prove enlightening, were an effort made to clarify the situation.

Professor McKeag stated that, with the utmost regret, he found himself unable to accept the proffered honour, in return for a payment of £21. He explained that he had arrived at this decision, because of his conviction that payment for honours, political or academic, is unethical.

In an official reply from the Royal College of Surgeons of Edinburgh, it was emphasized that only a "certain limited group of people" was being offered the F.D.S., *without examination*. Also, that there are three categories: — (a) Honorary Fellowship, (b) Fellowship without examination, and (c) the ordinary Fellowship.

To this Professor McKeag commented ". . . as I gather from your letter that there is an Honorary Fellowship, as well as the Fellowship without examination but with a twenty guinea fee, the situation seems even more strange, and I think the profession in general should be aware of it. . ."

Every dentist, and foremost Professor McKeag, will certainly regret that widely circulated national newspapers, such as *The Daily Telegraph* (London) and *The Scotsman* (Edinburgh) should have learned of this fundamental conflict of professional opinion, and published excerpts from the above-mentioned correspondence.

Be that as it may, at a meeting held on March 14, 1951, in the Royal College of Surgeons of Edinburgh, 48 dentists (17 of them *in absentia*) received the Fellowship in Dental Surgery, *without examination*.

Although not, for one moment, venturing to adjudicate on the merits or demerits of a fee of £21 being exacted prior to election *without examination*, it, nevertheless, will strike many members of our profession that it would have been a gracious gesture, on the part of the College, to have conferred *Honorary Fellowships* in Dental Surgery on the Deans of the dental schools in the Commonwealth. It was, officially, stated that all of them were offered the Fellowship, *without examination*.

Since this article was written, an extraordinary situation has arisen. The Secretary of the Royal College of Surgeons of Edinburgh has informed me, in a letter dated March 31, 1951, that "the fee was charged owing to an administrative misunderstanding and has therefore been refunded." This is in direct conflict with the statutory regulations, cited by the College in its recent official correspondence with Professor McKeag.

*The entire correspondence between Professor McKeag and the Royal College of Surgeons of Edinburgh was published in the *British Dental Journal* of February 20, 1951.

Walking is excellent exercise for everyone—it cures cold feet, hot heads, pale faces and bad tempers.—Health League of Canada.

"The extent of some people's Christian living is that they know the name of the church they stay away from."

"Be friendly with the folks you know. If it weren't for them you'd be a total stranger."—Danish Proverb.

RUBBER DAM*

by GERALD D. STIBBS, B.S., D.M.D., Seattle, Washington

THE advantages of operating under a rubber dam are many, and become more and more self-evident with familiarity with the procedure. The oft-stated disadvantages of time consumption and patient-objection are eliminated with the acquisition of a simplified routine technique. With such a technique, a dam can be placed easily in an average time of two to three minutes, including the placing and blocking of any necessary clamps. When each step of the procedure is standardized, it becomes a matter of routine to utilize the time between the administration of the local anaesthetic and the onset of effective anaesthesia by placing a dam.

APPLICATION

Sequence of Procedure

1. Assuming patient has previously received a prophylaxis, operator irrigates mouth with warm mouth wash from spray bottle to definitely remove any superficial debris.
2. Operator receives ligature from assistant to pass through contact points, noting degree of contact, and sharp edges which should be removed with lightning strip.
3. Assistant, meanwhile, sets out on cabinet the rubber dam, dam punch, required clamp, clamp holder, soap, face pad and dam holder.
4. Punch necessary holes.
5. Assistant applies lubricant on dam, and protective cream on patient's lips if desired.
6. Place clamp in dam, if operating on posterior teeth.
7. Assistant passes clamp holder and steps to left side of chair.
8. Operator places clamp on tooth, assistant takes clamp holder, and operator slips dam over jaws of clamp and through as many con-

tacts as readily possible, assistant holding loose ends of dam out of the way.

9. Place face pad.
10. Assistant hands dam holder to operator, opens folds of dam and holds edges of right side taut for operator to attach holder. Operator passes holder around patient's head while assistant draws left side of dam taut for attachment to holder. Holder is then drawn tight. Have elastic of holder at such a level on the curvature of the back of the head (at or slightly above the lambda) that when tightened the holder will not tend to slip up or down, but remain steady.
11. Assistant stretches septa of dam over contacts, while operator works them through contacts with ligature.
12. Seal is completed around each tooth with small burnisher and the ligature, while assistant dries teeth thoroughly with compressed air.
NOTE—it is not necessary or advisable to ligate teeth.
13. Any folds in dam are eliminated by catching tucks in lower clip of holder, and if necessary a weight is placed by assistant.
14. Immediately apply coating of varnish over all exposed silicate cements.
15. Place saliva ejector of proper size for the mouth, through small hole cut in suitable location in the dam, so it will offer the least possible obstruction in the field of operation.
16. Place gingival clamp if necessary, and block with compound.
17. Proper field now presents, and operator may proceed with operation.

* From Department of Operative Dentistry, University of Washington.

SET-UP

On Bracket Table—Mirror, Explorer, Cotton pliers, Small burnisher No. 34, Small scissors.

On Cabinet or Assistant's Cabinet—Rubber dam, 5" x 6" or 6" x 6" washed and powdered, Rubber dam punch, Rubber dam holder, Clamp holder, Clamps: S.S.W.-212, 18, 22; Ivory—00, 1, 2, 4, 5, 14, 14A, Rubber dam pad, Soap for lubricant, Compound tracing sticks, Tumbler of warm water, Dental floss.

REMOVAL

Sequence of Procedure

1. If chair is tipped back, or if head-rest is at other than a normal setting, reestablish normal operating position, advising patient of your intention to do so prior to actually doing it.
2. With air syringe blow out all possible debris from the field, and also blow loose debris off patient's towel so it will not fall on to clothing.
3. Connect air hose to spray bottle containing warm mouth wash.
4. Remove separator, and gingival clamp (only), and rubber dam weights, if any.
5. Remove saliva ejector.
6. Carefully stretch dam labially or buccally and occlusally to lift rubber septa free of interproximal tissues.
7. Cut interseptal rubber, usually from buccal, with sharp, curved crown and bridge scissors held parallel with occlusal plane, being extremely cautious not to cut gingival tissues, lips, cheeks or tongue.
Draw the cut portions of rubber to the lingual until free of the interproximal surfaces.
8. Then, and only then, remove the routine clamp if one is present. Place it and clamp holder on cabinet, not on bracket table.
9. While supporting dam in position with right hand, unfasten dam holder from both sides, using left

hand. Place holder on cabinet, or it may temporarily be lowered to the adjustment lever of the head-rest.

10. If necessary, caution the patient against biting the teeth together.
11. Carefully gather dam and pad toward the mouth area and into the right hand, at the same time wiping patient's face with the dry portions of the pad.
12. Flush mouth with warm mouth wash. Direct the spray first against the back of the retracting mouth mirror, then gradually bring it over to the site of the operation. Use enough solution so the patient has a reasonable quantity with which to irrigate the mouth.
13. Before discarding the dam, examine it to be positive that all of the rubber has been removed.
14. Carefully examine teeth and interproximal areas to be doubly sure that none of the dam still remains.
15. Loosen any remaining compound, carving trimmings, etc., from teeth and flush out all particles, repeating use of mouth wash as many times as may be necessary to remove all debris.
Check with transillumination, especially under the free gingival tissue of the tooth operated on.
16. Treat any areas where clamp or separator has impinged on the tissues by gentle massage with clean fingers and by the application of a mild antiseptic such as camphophenique or iodo-glycerin.
17. Irrigate patient's mouth again with mouth wash; be sure the mouth is comfortable, and the face free of debris.
18. Patient now may be offered a hand mirror and shown the work which has been done, with whatever explanation and education is desired. Instruction in home care is given if necessary.
19. Chair is lowered and patient is dismissed.

"Instructions assume the aid of an assistant"

Dental Public Health Programs For The Province of British Columbia

by LESLIE G. ROBINSON, D.D.S., New Westminster, British Columbia

IN ORDER that the people of the Province of British Columbia may have the most efficient and complete health service, the entire area of the Province, with the exception of a few remote localities, has been laid out into eighteen divisions, in each of which is to be established a complete Local Health Unit. At the time of writing, thirteen of these Units have been organized and are in operation, with complete personnel, with the exception of Dental Directors. Four more Units are completely organized, with the exception of both Medical and Dental Directors, and one Unit is not yet fully organized.

A Local Health Unit, as defined by the Department of Health and Welfare, is "A modern, full time health department, serving one or more population centres and the rural districts surrounding them." Services rendered under the Local Health Unit plan include Maternity and Child Health; School Health; Sanitation; Industrial Hygiene; Public Health Education; Mental Hygiene; Communicable Disease Control; Preventive Dentistry, etc.

The objective of the Department of Health and Welfare and its Division of Preventive Dentistry is to have appointed to each of these Units, eventually, a full time Dental Director. It will be his duty to conduct a Preventive Dental service for the children of the Local Health Unit area.

In the following descriptive material, in the interests of brevity, the Department of Health and Welfare of the Province of British Columbia will be called the "Department", and the Division of Preventive Dentistry of the Department will be referred to as the "Division."

EVENTS LEADING TO THE ESTABLISHMENT OF THE PRESENT PROGRAMS

The need for a definite plan for the establishment of dental public health in the Province had long been recognized by both the Department and the profession. However, prior to 1949, no comprehensive program of dental public health was in effect in the Province. Local organizations were operating, principally in the larger city schools, but no province-wide activities along this line had been undertaken. During the latter part of 1948, and the early months of 1949, both the Department and the profession took action toward the desired end.

There had existed some confusion, and some overlapping of duties of the two province-wide dental organizations—the College of Dental Surgeons of British Columbia, and the British Columbia Dental Association—the legal, and voluntary bodies, respectively. Possibly largely because of this situation, neither body had taken any positive, effective action. Early in 1949 the respective duties of these organizations were clearly established, by mutual agreement, and it became the duty of the voluntary body, the British Columbia Dental Association, to take immediate action toward the development of a dental public health plan.

Co-incidentally, the Department established the Division of Preventive Dentistry, and appointed an acting Director, in the person of Doctor F. McCombie.

The executive committee of the British Columbia Dental Association, (hereafter called the "Association"), appointed a strong dental public health committee of twelve repre-

sentatives from various parts of the Province. From the first, it was realized that immediate contact should be established with officials of the Department, and with the newly appointed Acting Director of the Division. Fortunately for the success of the program, a most satisfactory and complete spirit of co-operation existed between officials of the government, and members of the profession. Since the size of the committee made it impractical for all of them to travel back and forth from various parts of the Province for conferences with the government officials, a smaller liaison group of three members was appointed for this purpose. This sub-committee laboured untiringly with members of the Division and of the Department in working out details of the various programs to be described below. The sub-committee met regularly with the full dental public health committee of the Association. Through them, condensed reports were brought to the executive committee of the Association for general discussion and criticism. Finally, progress was reported to the members of the profession generally through the Bulletin of the Association.

Before outlining the various programs of dental public health now available to the people of the Province, emphasis should be directed toward the long range objective of the Division and the Department; that the entire Province be divided into eighteen units, each of which will eventually have a full time dental director, and that all of the people of the Province, with the possible exception of about two per cent, residing in very remote areas, will have dental public health services administered under the Local Health Unit plan.

One more point that should be stressed at this time, is that the Division is a Division of *Preventive Dentistry*, and that throughout the development of the programs by the committees of the Association, in co-operation with the officials of the govern-

ment, prevention, rather than correction, has been the principal objective.

The Local Health Unit Program

(For the most part, quoted from government literature)

The number of school children in any Local Health Unit area is such that it would be impossible for one dentist to treat all. For the first year, the service would, of necessity, have to be restricted to where the maximum benefit may result, namely, to pre-school and grade one children. The number of children directly receiving treatment in the first year would probably be between four and six hundred. In future years, education in the prevention of dental disease will reduce the amount of treatment and time required for each child. Pre-school children entering grade one, and previously restored to dental health under this plan, will require considerably less care. Therefore, in future years it will be possible to extend the service to cover increasingly larger numbers of children.

Within some Local Units, it would be possible for the children's dentist, during the first year, to examine all grade one children and as many pre-school children as may attend, while in larger Units it will be impossible for the dentist to cover the grade one children of all the school districts. Consideration will therefore be given by the Union Board of Health to application of School Boards for inclusion within such a program in the order in which applications are received. The number of School Boards included will be determined by the number of children which the dentist may reasonably be expected to treat during the first year. For such School Boards as are incorporated within the program, the children's dentist will, in the first year, examine all grade one children, and as many pre-school children as may attend.

When the parents so wish, the children's dentist will carry out the essential dental treatment for these children. At the discretion of the School

Board, a charge of two dollars for each child receiving treatment may be made, irrespective of the amount of treatment necessary. The method and agency of collection will also be at the discretion of the School Board. Treatment would be carried out in a centrally located dental clinic, equipped as any modern dental office. The dentist will have also transportable equipment, with which he can operate in the smaller centres of the Local Health Unit area.

The dentist will be known as the Dental Director in the Local Health Unit. His duties would include helping everyone in the Unit area appreciate the possibilities of preventing by far the greater part of dental disease, as has been shown to be possible by the latest research on the subject. This would be accomplished by addresses to such groups as may request his help, such as Parent Teachers' Associations, Women's Institutes, Junior Red Cross groups and service clubs, etc. In co-operation with school inspectors and school principals, he would be available to aid teachers in the presentation of dental health education in the schools and making available suitable teaching aids. The public health nurses and other members of the Unit staff would be kept informed of the latest developments in the prevention of dental disease. It is hoped that the dentist would be of such calibre as to be able to advise the private dental practitioners of the area in the latest possibilities and effectiveness of the various methods of preventing dental disease. This suggested solution of the problem has the approval of the Provincial Department, and of the Dental Public Health and Public Relations committees of the British Columbia Dental Association.

There will be four, and possibly six dental directors appointed to Local Health Units this year. It is hoped that at least three additional dental directors may be appointed each year thereafter, until all Units will be supplied.

COST OF PREVENTIVE DENTAL SERVICES OF A LOCAL HEALTH UNIT

To include within the services of a Unit the salaries of a children's dentist and a dental nurse, together with the cost of travelling, and dental supplies, an annual sum of approximately nine thousand dollars would be required. Through the Local Health Unit plan, it is now possible to obtain a grant to cover more than seventy-five per cent of the annual cost, leaving two thousand dollars to be contributed by the Unit area. At the present time, prior to the establishment of the Local Health Units, a contribution to the cost of local health services is made through the School Boards on a per capita basis. The above sum would similarly be divided on a per capita basis between those School Boards, the children of which were receiving the benefit of the service. In the second year of operation, the contribution made by the local Unit area would be two thousand five hundred dollars, and in the third and subsequent years, three thousand dollars. It should be remembered that in these years, more children will be receiving direct benefit from the program. The heavy initial cost of approximately seven thousand five hundred dollars, for the dental equipment of the central clinic, transportable equipment, and a suburban wagon for the use of the dental team in the smaller centres, will be borne by the Department.

This program of the Local Health Unit is suggested as a practical approach to a most serious problem. Though bringing benefit to small numbers at the beginning, it will, in time, improve the dental health of all of our children. Dental disease which today adversely affects the health of nearly all of our children, can be eliminated. The people of the Local Unit area will decide whether this is to be, or not to be.

At least until the program of preventive dental services under the Local Health Unit plan may be fully implemented, several other programs

are offered by the Division, to supply the needs of communities, according to limitations of local conditions. The first of these programs to be described comes under the heading of

Child Dental Clinics in Smaller Communities—Provisions for Assistance by the Department of Health

(Quoted from Government Literature)

The Department will assist in the formation and financing of local dental clinics.

The planning of the clinics is to be undertaken by local committees, comprised of representatives of local groups, such as Parent Teachers' Associations, Service Clubs, School Boards, etc.

The local committee will raise funds to pay for the community portion of the cost of the program.

Under this plan, it is stated that the program will include all children who come within its scope equally. It will not be confined to those who need attention most, and will include children who have cared for their mouths and require little corrective treatment. It is advised that the children receive treatment according to a fixed order, such as alphabetically, or from the teacher's records, and that this order be agreed upon before the clinic begins.

Priority of treatment is to be given to pre-school children and grade one pupils, always with a minimum of one pre-school child to every five school children. It is considered most important that treatment shall be provided for as many pre-school children as possible. Since there is seldom to be found any effective organization wherewith to establish contact with pre-school children, it is hoped that such contact may be brought about through parents of children of the early grades.

In educational literature provided by the Department to groups undertaking this type of service, it is strongly emphasized that the influence of

treatment begun with pre-school and grade one children, together with the effect of educational instruction given through public health nurses and schools will result in greatly reduced need for dental treatment in young and older children in future years.

For purposes of planning the first year, it is proposed as a guide, that two hours of the dentist's time be reserved for each child enrolled.

It is suggested that financing should be planned as for an annual program, so that the work once begun, may be carried on energetically in future years: or, at least, until the dental health services of the area may be taken over by a Local Health Unit program.

Arrangements are to be made by the committee with the local dentist, or dentists, to have time reserved in their offices for the program.

FINANCIAL ARRANGEMENTS

The expense for dental treatment of the children will be paid by the local committee, on the basis of an agreed number of sessions per week, of three hours per session, for each week of the month. For one such session per week, the dentist will receive one hundred dollars per month. For two such sessions, two hundred dollars per month will be paid. For only three such sessions in one month, the fee would be seventy-five dollars. The basis is, of course, remuneration to the dentist of eight dollars per hour. The dentist will use his own office, with his assistant, and will be responsible for all overhead expenses, including materials.

Records will be submitted each month to the Department, which will, upon arrival, contribute fifty per cent of the expenses incurred. The remaining fifty per cent will be found and supplied by the committee from funds raised by community effort, and from a fixed fee, to be paid by parents of children receiving treatment, of two, three, four or more dollars per child.

This latter provision will not be used to preclude any child from receiving treatment.

For the future, it is hoped that it will be possible for the committee to expand the service to maintain in dental health the children treated in the previous year, and to include a fresh group of pre-school children. It will be appreciated that those children who were treated for the first time the previous year should require much less of the dentist's time the next year. With very little, or no extra time required of the dentist, it should therefore be possible, each year, to maintain in dental health an increasing number of children, and for approximately the same total financial contribution by the community.

It is sincerely appreciated that the successful outcome of such a program is the result of many hours of careful and painstaking work by the committee, but this work, if carried on successfully for a number of years, can change the existing picture of widespread dental ill health and disease to one of dental health. (end of quoted literature)

An interesting example of the outcome of a program following the same basic principles as outlined above, has come to light in one community of this Province, where a trial program was started in 1947-48. In the first year, fifty-four grade one pupils, and nineteen pre-school children were enrolled. In 1950, this service was extended to grade four, completing one hundred and sixty children, including forty-three pre-school children. In that year, the average time per child was reduced to 1.54 hours, and a steady cost has been maintained to the community, although double the number of children receive the benefit of this service.

Another program which may apply more effectively in different circumstances is entitled:

Grants-in-Aid to Encourage Dentists to Reside in Small Rural Communities
(Quoted from Departmental literature)

An annual grant-in-aid may be paid by the Department to a dentist who opens an office for the practice of dentistry in a rural community where no dentist is at present located, and where such office is at least ten miles from the nearest practising dentist.

Qualifications for such grants-in-aid require that the dentist, if so requested, agrees to conduct clinics for children in his office for an agreed number of sessions per annum, according to the principles outlined in the program "Child Dental Clinics for Smaller Communities."

Applications for the grant by the dentist will be submitted to the Council of the College of Dental Surgeons of the Province, which will judge the applications on their merits, using the following schedule as a guide, and make its recommendations to the Department. The Council will renew the grant annually. The grant will be discontinued as and when a second dentist locates in or adjacent to such a community that has previously entitled a dentist to such a grant. It will be noted that the populations listed below represent those of the immediate communities in which the dentist is resident—not those of the area which he would serve.

BASIS OF GRANTS

Community population	Annual Grant-in-Aid
Less than 500	\$600.00
500-1000	\$450.00
Greater than 1000	\$300.00
(end of quoted literature)	

Provision has been made for still more remote areas, which may be visited periodically by a dentist operating in another locality.

Dental Offices for Dentists Visiting Small Rural Communities, Including Travel Allowance

Dental offices may be established, and an allowance granted to a nearby

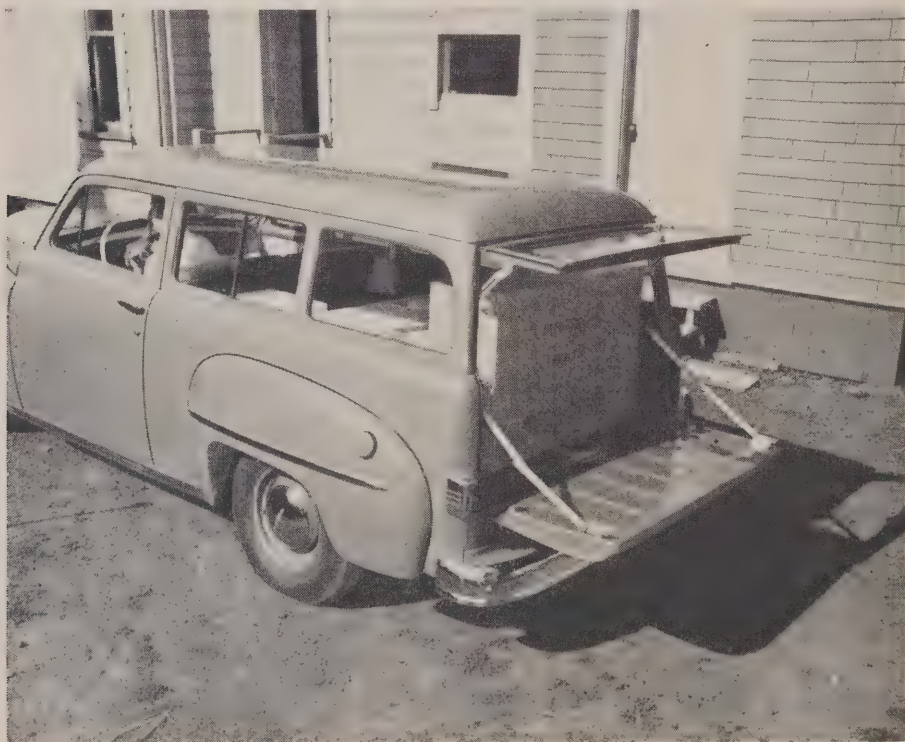
dentist to visit such communities which are too small at the present time to support a resident dentist, the dentist agreeing to visit the community on an agreed number of days per month, or per year.

The Department will provide, on loan to the community, such basic equipment as a dental chair, dental unit including engine, cabinet and sterilizer. The dentist will be required to supply the necessary instruments and materials. The community will be responsible for provision of operating office, waiting room, heating, lighting, plumbing and electricity if available.

Qualifications for the use of such facilities require that the dentist

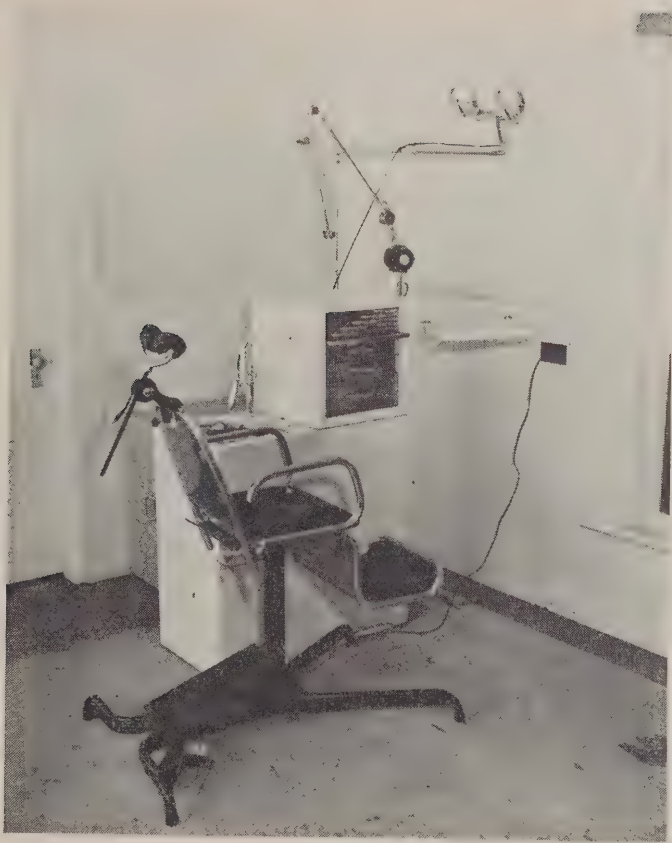
agrees to conduct clinics for children for an agreed number of sessions per annum, according to the principles outlined in "Child Dental Clinics for Smaller Communities". The dentist would have the use of the office and equipment for the treatment of private patients as required, beyond the use required for clinics for children.

Applications for the loan of such equipment will be submitted to the Council of the College of Dental Surgeons. The following schedule will be used as a guide by the Council in making recommendations to the Department. As and when a dentist takes up resident practice in such a community, the facilities and travel allowances will be discontinued.



ALL EQUIPMENT WITHIN SUBURBAN WAGON

1. Each Dental Director in a local health unit and each Travelling Dental Clinic will be supplied with a suburban wagon. 2. Sufficient room remains for personal luggage for a prolonged stay at a location distant from the health unit centre. 3. Travelling clinics unattached to any health unit are planned to operate in the most remote areas of the Province, during the interim period before a Dental Director is with each of the 18 health units planned to cover the Province.



TRANSPORTABLE DENTAL CHAIR & INSTRUMENT CABINET

CHAIR—1. Seat may be raised and lowered by pump action, 14 1/2" range. 2. Seat may be adjusted to maximum angle of 30 degrees to horizontal. 3. Back may be raised and lowered. 4. Back may be adjusted to maximum angle of 45 degrees to vertical. 5. Foot rest may be extended forward. 6. Time for assembly and dismantling less than 10 mins. 7. Though primarily designed for children an adult of 165 lbs. has been seated adequately within the chair.

INSTRUMENT CABINET—1. Six stainless steel drawers for hand instruments etc. 2. Three large drawers for forceps, syringes, & supplies etc. 3. Bracket table, in transit, becomes front of cabinet.

ANNUAL TRAVEL ALLOWANCE			
Monthly Mileage	Road Conditions		
	Good	Fair	Poor
1-500	\$150	\$200	\$250
500-1000	\$200	\$250	\$300
Over 1000	\$250	\$300	\$350

By sea or rail, fares in one direction only will be admissible.

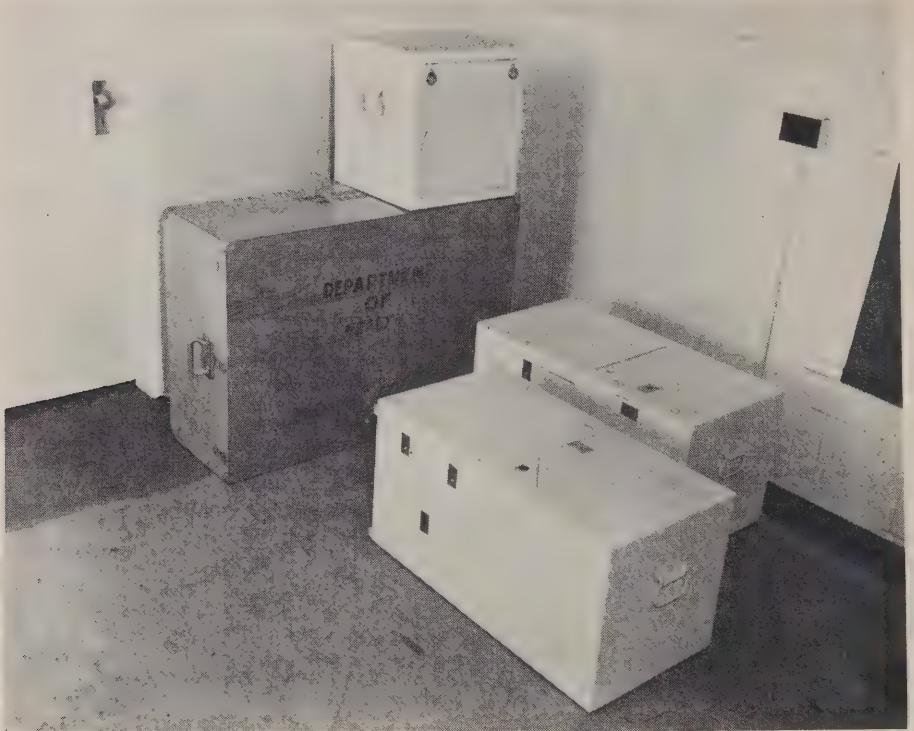
DENTAL PROGRAM IN LARGER COMMUNITIES

Communities may wish to organize a dental program establishing their own dental clinic, and employing therein a full time or part time dentist,

or various local dentists working on a sessional basis.

A committee will then be organized and a similar type of program planned as described in "Child Dental Programs for Smaller Communities". Should the Board of School Trustees wish to undertake the duties and responsibilities of this committee, it is rightly within their power so to do.

Before such programs are instituted, applications may be made to the Department for a grant, which will be allocated according to the schedule below.



EQUIPMENT PACKED FOR TRANSIT

1. Equipment may travel by suburban wagon, truck, bus, ship, motor launch or train. 2. All auxiliary equipment i.e., dental chair, lights, dental engine, and sterilizer contained within four containers. 3. All instruments, filling materials, linen and stationary carried within containers. 4. Three containers forming cabinet constructed of 16-gauge cold rolled steel.

WEIGHTS

Lower cabinet empty	70 lbs.	Light and bracket	5 lbs.
Middle cabinet (including cuspidor)	74 lbs.	Dental engine, etc.	8 lbs.
Instrument cabinet empty	67 lbs.	Sterilizer	3 lbs.

Equipment will be purchased in the first instance by the community, who may claim twenty per cent of the total cost from the Department annually for the first three years.

As the program of dental services within Local Health Units expands, it is anticipated that the above type of program will be absorbed therein, should the local committee so desire.

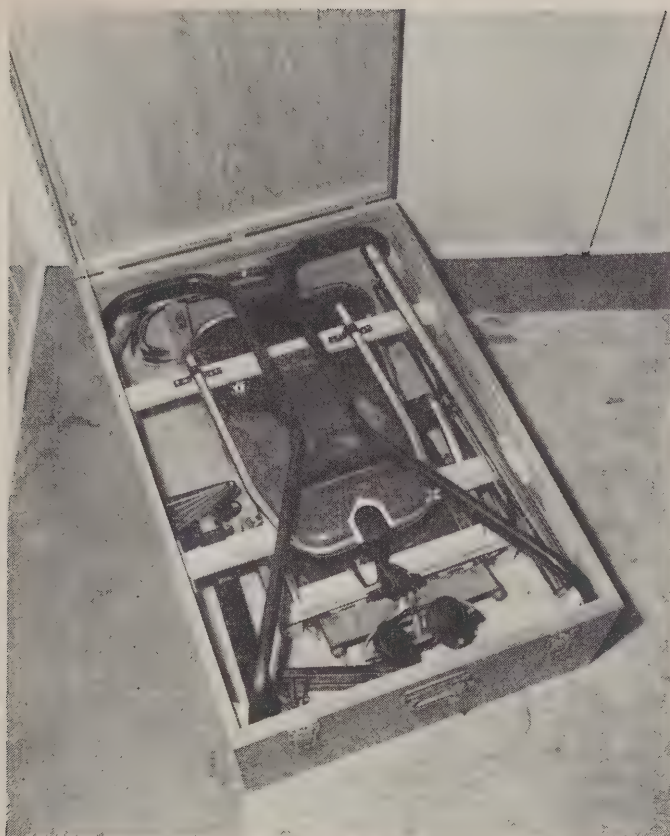
Elementary	
School Children	Annual Grant
Greater than 1,750	\$2,020
1250-1750	1,740
750-1250	1,200
Less than 750	720

(end of quote)

TRAVELLING DENTAL CLINICS

References have been made, on several occasions above, to travelling dental clinics and transportable equipment. Because of the fact that many communities in this Province are not approachable by rail or by road, the use of a fully equipped motor van or trailer seemed impracticable. For this reason, travelling equipment has been designed to permit packing into relatively small, compact cases, which may be transported by rail, motor car or boat.

This equipment includes a light weight dental chair of tubular steel, and composite metal cabinets, together



TRANSPORTABLE DENTAL CHAIR WITHIN CARRYING CASE
also included vertical pillar for supporting lights.

Weight of case	29 lbs.
Weight of chair	72 lbs.
Weight of pillar	10 lbs.
	111 lbs.

with operating lights and dental engine. The chair, while having all the movements of a modern dental chair, can be broken down and transported in a wooden carrying case. Though primarily designed for children, the chair can be adjusted to accommodate adults. The composite cabinets of rolled steel include cuspidor, water tank, instrument drawers, and storage space for drugs, materials, linen, etc. All of the equipment can easily be transported within a suburban wagon, or may be shipped by rail or boat. In some makes of modern cars, the entire equipment could be carried, with

no great difficulty, in the back and trunk of the car.

Design of the equipment and transporting methods are shown in the accompanying four illustrations.

This equipment, which is a masterpiece of compact design, was planned by officials of the Division, and, for the most part, manufactured in British Columbia.

Although intended, primarily, to form a part of the equipment supplied to Local Health Units having the services of a Dental Director, this transportable equipment is available at the present time for other purposes. It

may be obtained on loan by a dentist desiring to visit, and operate in out-lying centres. Arrangements would be made through local committees, operating under the plan laid down in "Child Dental Clinics in Smaller Communities".

If the personnel can be obtained this summer, the Department will be pleased to establish at once a full time travelling clinic to operate outside Local Health Unit areas, using a suburban wagon for transportation of equipment and personnel. Another such travelling clinic may be established next year, if sufficient personnel is available.

It may well be that one or more travelling clinics may be required permanently, to serve isolated communities not included within established Local Health Unit areas. All funds used to assist these programs, at present, are from the Federal government.

These, then, are the various services offered by the Department of Health and Welfare of the Province of British Columbia, through its Division of Preventive Dentistry, with the full approval of the British Columbia Dental Association, to the people of this Province.

The Department of Health and Welfare has given high priority to the establishment of dental public health

programs in British Columbia. Given the green light, the responsibility was placed squarely upon the shoulders of the officials of the Division, and upon the British Columbia Dental Association. Neither could have succeeded without the other, nor could much have been accomplished without the most cordial spirit of cooperation that has existed from the beginning.

It would be strange, indeed, if all or any of these programs should be found applicable generally, without some modification and alteration, as they are tried and tested in actual operation. British Columbia encompasses a great diversity of industries and occupations, with its fishing, lumbering, farming, mining and fruit-growing districts. There are many remote areas in coastal regions, and in the great northern and eastern interior areas. The widely varied series of programs outlined above has been designed to deal with such diverse conditions.

Officials of the Department, and of the Division in particular, together with the members of the Dental Public Health Committee of the Province, are well content with the progress that has already been achieved. It is hoped and believed that the great work thus started may be carried through successfully to the ultimate objective, namely, the improvement of dental public health of the people of British Columbia.

ART EXHIBIT

(In connection with the C.D.A. Convention) Ottawa, September 23-26, 1951

Get your entries ready for Art Exhibit. Open to dentists and members of their families. Camera prints, cils, water colours and crayons will be gladly received. Send in that enlarged snap of which you are proud! All exhibits will be carefully returned. For further information, write:

Dr. A. W. Grace, Chairman of Art Committee,
56 Sparks Street, Ottawa, Ont.

Man, whether he realizes it or not, is always fighting for the kind of world he wants.—Justice Holmes

The humblest individual exerts some influence, either for good or evil, upon others.—Henry Ward Beecher

"There's no such thing as an idle rumour; they're always busy."

ANNOUNCEMENTS

Annual Convention of The Maritime Dental Association

under the auspices of

The Dental Association of Prince Edward Island

Charlottetown Hotel, June 27th, 28th, 29th

GENERAL CHAIRMAN

Dr. Heath McIntyre
Charlottetown

PRESIDENT

Dr. A. W. M. Allan
Charlottetown

SEC.-TREASURER

Dr. D. T. Wayne
Charlottetown

ESSAYISTS and CLINICIANS

Dr. Roy G. Ellis
Lemuel E. Prowse, M.D.
Dr. Carlos Well
Dr. J. H. Johnson
Dr. J. E. McCutcheon
Dr. J. E. Goddman

Toronto
Charlottetown
Philadelphia
Toronto
Montreal
Boston

Essayist
Anaesthesia
Operative Dentistry
Oral Surgery
Prosthetics
Surgery

Dr. J. P. McGuigan, Dr. J. Meritt, Dr. H. S. Crosby
Faculty of Dentistry, Dalhousie University

ENTERTAINMENT FOR THE LADIES—Drives, Luncheons, Teas, Golf, Dancing, etc.

A SUCCESSFUL CONVENTION IS ANTICIPATED

ANNUAL FALL CLINIC OF THE MONTREAL DENTAL CLUB, Montreal, November 21-23.

THE 1951 ANNUAL A.D.A. MEETING will be held in Washington, D.C., October 15-18.

EIGHTH ANNUAL SEMINAR FOR THE STUDY AND PRACTICE OF DENTAL MEDICINE: Leading dental-medical practitioners will participate in the Eighth Annual Seminar for the Study and Practice of Dental Medicine, Oct. 28 to Nov. 1 at the Desert Inn at Palm Springs, California, according to Dr. Hermann Becks, M.D., D.D.S., founder and president of the Seminar.

Lecturers include: William A. Albrecht, Ph.D., Professor of Soils and Chairman of the Department at the University of Missouri, College of Agriculture; Seymour M. Farber, M.D., Division of Medicine of the University of California Medical School; Dr. L. S. Fossdick, Professor of Chemistry, Northwestern University; Theodor Rosebury, D.D.S., Professor and Head of the Department of Bacteriology, School of Dentistry, Washington University, St. Louis; David B. Scott, D.D.S., M.S., National Institute of Dental Research, the National Institute of Health, Bethesda, Md.; Harry Shwachman, M.D., Director of the Clinical Laboratory, and in charge of the Chronic Nutrition Clinic, Children's Medical Centre, Boston; and Norman S. Simmons, D.M.D., Chief, Enzyme Chemistry Section, Atomic Energy Project, University of California in Los Angeles.

New Seminar applicants must comply with the following requirements: 1. A case report; or, 2. A postgraduate course in the basic sciences between October, 1950 and October, 1951; or, 3. An abstract of a publication on any of the subjects to be presented at the coming Seminar. Literature references will be forwarded upon request.

Registration, lodging and meals for the five days of the Seminar are included in the total fee of \$150.

Detailed information may be obtained from Miss Marion G. Lewis, Executive Secretary, Room 200, Hooper Foundation, University of California Medical Centre, San Francisco 22, California.

"THE NEW YORK INSTITUTE OF CLINICAL ORAL PATHOLOGY announces a meeting which will be open to the dental, medical and allied professions in celebration of its One Hundred and Fiftieth Monthly Conference, to be held in Hosack Hall, The New York Academy of Medicine, 2 East 103rd Street, on Monday, October 29, 1951 at 8:30 P.M.

Doctor Hans Selye, Professor and Director of the Institute of Experimental Medicine and Surgery, University of Montreal, is to be the essayist on the subject, 'ROLE OF GENERAL-ADAPTATION-SYNDROME IN ORAL PATHOLOGY (with special reference of hormone treatment)'."

Theodor Blum, D.D.S., M.D.



SEPTEMBER 23, 24, 25, 26, 1951

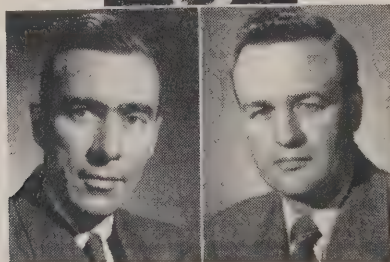
A tentative program of our annual meeting is presented herewith for every member's convenient study. In addition a splendid program is being arranged for the entertainment of visiting ladies by the Ottawa Dentists' Wives Association.

REGISTER NOW FOR ACCOMMODATION WITH DR. H. W. BEACH, 150 METCALFE ST., OTTAWA.

SECURE YOUR IDENTIFICATION CERTIFICATE FOR REDUCED RAILWAY FARES FROM THE SECRETARY, CANADIAN DENTAL ASSOCIATION, 234 ST. GEORGE ST., TORONTO.

Plan now to attend our annual meeting and participate in the hospitality arranged by the Eastern Ontario Dental Association — our hosts.

DR. VINCENT TREMBLAY
University of Montreal



DR. D. C. GORDON DR. R. T. LAMB
University of McGill

Among our group clinicians at the Convention will be Dr. Vincent Tremblay, clinician and lecturer in endodontics at Faculty of Dentistry, University of Montreal; Dr. D. C. Gordon, director of the Operative Dentistry department at McGill and his associate Dr. Lamb, demonstrator in that department. Dr. Gordon and Dr. Lamb will present respective phases of direct and indirect inlay procedures.

TENTATIVE PROGRAM

CANADIAN DENTAL ASSOCIATION and EASTERN ONTARIO DENTAL ASSOCIATION

SUNDAY, SEPTEMBER 23—All Day Registration

A.M.—Golf.
P.M.—Sight Seeing Tour.
P.M.— 8.45—Evening Musicale

MONDAY, SEPTEMBER 24.

A.M.— 9.30-12 noon. Registration
Table Clinics

P.M.—12.30—Luncheon. Dentists and Wives.
Speaker—The Prime Minister of Canada.
Rt. Hon. Louis St. Laurent
2.30—C.D.A. Business Meeting and President's address.
3.00—Dr. Sumner Pallardy.
Professor of Prosthetic Dentistry,
Temple University, Philadelphia.
Subject—Simplicity in Full Denture Construction.
4.00—The George W. Grieve Memorial Lecture
by Dr. Gerald Franklin, Montreal.
5.00—Visit to Parliament Hill.
7.00—Hospitality Night.

TUESDAY, SEPTEMBER 25.

A.M.— 9.30-10.30—Group Clinics.
10.45-11.45—Group Clinics.

Group Clinicians:

1. Dr. Sumner Pallardy, Philadelphia.
Subject—Some Aspects of Full Denture Construction.
 2. Dr. Orville Coomer, Louisville, Kentucky.
Subject—Hydrocolloid Impressions for Fixed Bridge Work.
 3. Dr. C. H. M. Williams, Toronto.
Subject—Periodontal Pocket Therapy.
 4. Dr. Stewart A. MacGregor.
Professor in Pedodontics, University of Toronto.
Subject—Dentistry for Children, Past, Present, and Future.
 5. Dr. W. J. Ross assisted by Dr. R. G. Hemmerich, Kitchener.
Subject—Ideas and Techniques which have been found helpful
in 20 years in General Practice.
 6. Dr. Vincent Tremblay.
Department of Operative Dentistry, University of Montreal.
Subject—Practical Hints on Root Canal Therapy.
 7. Dr. D. C. Gordon, Assisted by Dr. R. T. Lamb,
Department of Operative Dentistry, McGill University.
Subject—Inlay Principles and Practical Applications.
 8. Major S. K. Oldfield, Ottawa.
Royal Canadian Dental Corps.
Subject—Amalgam Restorations with Emphasis on Matrix Applications.
- Noon—Dine where you wish.
- P.M.— 2.30—Dr. Orville Coomer, Louisville, Kentucky.
Subject—The Latest Developments in Hydrocolloid Technique
for Inlays and Fixed Bridges.
- 3.30—Dr. James P. Coupland, Ottawa.
Subject—Review of the Developments which have Influenced
the Course of Oral Surgery.
- 4.30—Eastern Ontario Dental Association—
Annual Business Meeting.
- 7.00—Presidents' Reception Dinner and Dance.
(Strictly Informal)

WEDNESDAY, SEPTEMBER 26.

A.M.— 9.30-10.30—Repeat Group Clinics.
10.35-11.45—Repeat Group Clinics.

Noon—Luncheon.

Speaker—Mr. Gordon Graydon, M.P.
Subject—United Nations Today.

P.M.— 2.30—Dr. C. H. M. Williams,
Associate Professor of Periodontics,
University of Toronto.
Subject—The Present Status in the Prevention of Dental Diseases.

3.30—Dr. LeRoy Ennis, Philadelphia,
Professor of Roetgenology,
University of Pennsylvania.
Subject—Diagnosis and X-Ray Interpretation.

The Forum

PENTOTHAL SODIUM

by PAUEL J. FLAGG in *Jour. of Oral Surg.*, April, 1951

It is entirely natural that a general anaesthetic which can be given by a hypodermic syringe, and which produces, without excitement, an agreeable loss of consciousness, and from which the patient recovers without nausea and with a sensation of well-being, should be warmly received by oral surgeons.

Intravenous pentothal sodium produces such anaesthesia. Barring slight discomfort when the surgeon has difficulty in locating a vein, this anaesthetic, because it produces an agreeable loss of consciousness and a pleasant recovery, is and will continue to be most acceptable from the patient's point of view.

In the face of its enormous appeal, which has pervaded professional and lay consciousness, with the insidiousness and the power of the Asiatic use of opium, words of caution would seem to have little chance of prevailing.

However, the fact remains that, regardless of patient pressure and the occasional loss of a patient to another dentist, the choice of drugs rests with the surgeon. In the long run the patient is glad to accept his decision.

Certain cautions must be cited regarding this anaesthesia. These cautions come from the country's most experienced anaesthetists. The drug is a hypnotic; it is not an anaesthetic. Except in large doses it does not control reflexes or bring about muscular relaxation. Pain itself is difficult to control by its use without preoperative sedation. The patient is unconscious, that is all.

Intravenous pentothal sodium entails two clear-cut hazards: (1) hyperactivity of the deep reflexes, especially of the glottis; (2) respiratory depression. Refractory patients who receive large doses may be expected to develop severe and dangerous post-operative respiratory depression.

These hazards endanger the patient by producing hyperactivity of the reflexes which induce spasm of the vocal cords resulting in immediate and complete respiratory obstruction of a persistent character. The feeble response of the respiration which has been depressed may not succeed in breaking through the spastic vocal cords, resulting in partial or fatal asphyxia.

Every effort must be made to prevent irritation of the glottis and precipitation of spasm. To accomplish this the patient's oral and tracheobronchial secretions must be reduced by full doses of atropine. The stomach must be empty and the nose and throat must be cleared before anaesthesia is begun. Cocaine should be sprayed into the throat. Cleaning solutions and blood must not be allowed to trickle into the airway, and pain should not be induced until anaesthesia is advanced. Too rapid injection of a too concentrated solution or too little sedation will precipitate laryngospasm.

To supplement the effects of intravenous pentothal sodium—that is to complete pain control and muscular relaxation—the surgeon should administer adequate preoperative seda-

tion such as morphine, meperidine or pentobarbital, and he should employ curare or curare-like drugs. The use of these drugs complicates what otherwise would be a simple anaesthetic procedure. Even with this procedure the hazards of laryngospasm and respiratory depression are accepted with the hope that they can be by-passed.

This passive acceptance may be replaced by a positive method of eliminating laryngospasm and respiratory depression. The technique consists of endotracheal intubation of the patient. Once an endotracheal tube is inserted, laryngospasm is prevented. Respiratory depression can be eliminated through the use of an endotracheal tube.

If the oral surgeon must make a patient unconscious with intravenous pentothal sodium, if he feels that the hazards are not likely to occur, he at least must be prepared to save the pa-

tient's life by emergency intubation should unexpected complications suddenly occur. The surgeon must acquaint himself with the appearance of the glottis and the technique of simple instrumentation required for relief.

The complications of laryngospasm and respiratory depression are invited in surgery of the mouth. Two methods of meeting these hazards may be employed: (1) doing everything possible to avoid them and hoping they will not occur; (2) endotracheal intubation. Endotracheal intubation is mandatory for major oral surgery. Every oral surgeon who assumes responsibility for an unconscious patient should be acquainted with the death zone of the respiratory tract. This knowledge is not difficult to acquire and should be as well understood as the use of the dental mirror. The patient is entitled to this essential margin of safety.

WHAT ARE THE DUTIES OF THE DENTAL HYGIENIST? THE DENTIST'S VIEWPOINT

by CHARLES F. BODECKER, D.D.S., F.A.C.D.

Condensed from *N.Y. State D. Jour.*, April 1951

The results, based on 251 replies to a questionnaire prepared by the Editor of the *N.Y. State Dental Journal* and sent to the members of the New York Society, show very clearly that the majority of dentists are of the opinion that the principal duties of the dental hygienist are:

- (a) to give prophylaxis;
- (b) to make topical applications of fluorine to reduce caries incidence;
- (c) to instruct patients in proper toothbrushing technique as well as the dangers of unsanitary mouths and the menace of candy, sweet beverages, etc.
- (d) to send out recall notices in the name of the dentist; and if time permits
- (e) to act as assistant at the operating chair, in sterilizing instruments, and in the care of equipment;
- (f) to process x-rays; and

(g) to act as receptionist.

A smaller majority (between 51 and 70 per cent) are also in favour of having the dental hygienist:

- (a) chart carious teeth;
- (b) instruct patients in the components of a balanced diet and in the principles of nutrition;
- (c) be responsible for the cleanliness of the office and, in emergency, dust equipment;
- (d) take x-rays;
- (e) keep dental records; and
- (f) send out statements.

The average dentist, as shown by the answers received, is opposed to having the dental hygienist

- (a) give impregnation technique;
- (b) send out recall notices in the name of the hygienist;
- (c) perform laboratory techniques, such as investing inlay patterns, casting inlays and pouring models; and

(d) keep financial records, answer letters and type manuscripts.

On the question of whether a two-year course in a dental hygiene school is necessary for service in the average dental office, 37 per cent answered "no." The fact that more than one-third of the dentists questioned the necessity of a two-year course may be significant. Dentists ask, why prolong the training and add to the cost of the hygiene service to the public?

The fact of the matter is that educators have been attempting to train one person for two jobs, viz. the private practice hygienist and the school hygienist. There is no doubt that the latter occupation requires training equal to that of teachers—four years. But there is some doubt concerning

the necessity of a two-years' training for private practice.

On the question of whether dental hygienists should be trained for extended duties, such as placing fillings in children's teeth, 87 per cent were opposed.

It thus appears that, in the opinion of the average practising dentist, the principal duty of the dental hygienist is the giving of dental prophylaxis, including fluoridation of the teeth and the instructing of patients in measures deemed essential to oral health. Other duties are regarded as secondary and the difference of opinion concerning these secondary duties appears to be dependent largely on the size of the practice in which she is employed.

The restricted possibilities of individual caries control by fluoride application, should not overshadow another method whereby dental incidence can be reduced by 60-90% in everybody simply, without cost and at any time. This miraculous recipe reads as follows: "If you suffer from rampant dental caries, cut out all sweets and excessive sugars from your food intake and as long as you do so, you will experience no new cavities." At a recent symposium on sugar and caries before the California State Dental Association this procedure was almost unanimously declared to offer at present the greatest protection against rampant caries. — Hermann Becks, M.D., D.D.S., in Bul. Oklahoma State D. Assoc.



"The bubble gum backfired."



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Editorial

NEW ZEALAND SCHOOL DENTAL NURSES

In order to obtain information on the dental public health program in New Zealand, particularly as applied to the training of school dental nurses, the Secretary of the Council on Dental Health of the American Dental Association, was sent to New Zealand to study the system and bring back a report. About the same time a British Dental Mission composed of five men studied the New Zealand dental nurses' problem and brought back a report.

As one studies these two reports one is reminded of the story set forth in the Old Testament of our Bible of how Moses sent twelve men into Palestine to spy out the land. On returning all agreed that it was a land flowing with milk and honey and that the fruit thereof was wonderful. However, only two of the twelve had faith to believe that the land could be conquered and the remaining ten reported that conquest was impossible, with the result that this people wandered around in the wilderness for another forty years. It was all a matter of viewpoint, but the result was tragic.

When we read these two reports on New Zealand in which the observers came to such different conclusions, one begins to wonder just what it is all about.

During their stay in New Zealand the British Mission travelled 690 miles by air and 900 miles by road, visited 50 clinics, saw more than 100 dental nurses at work in the field, met half the dental profession and report as follows:— As long ago as 1905 the New Zealand Dental Association waited upon the Government to urge the establishment of a school dental service

but it was not until 1921 that the first group of student dental nurses, 35 in number, was appointed. Of these, 28 completed the course and commenced their work in 1923. During the next twelve years the average annual intake was about 30; it rose to 51 in 1936 and has averaged 100.8 for the last five years. The Mission reports that the Scheme has the full support of the New Zealand Dental Association and that dentists, with few exceptions, regard the school dental nurse as a necessary adjunct to the dental care of children. The character of the training of the school dental nurse, together with a high esprit de corps, has resulted in not a single complaint of illegal practice since the inception of the Scheme.

Some five years ago, dental research was introduced in conjunction with the Dental Committee of the New Zealand Medical Research Council. Studies in caries and in diet, and more recently on the preventive value of sodium fluoride, were carried out. As applied to the dental nurse program at the present time, preventive treatment includes oral prophylaxis and the topical application of sodium fluoride which is a matter of routine for all children treated, and this is reinforced by lectures and instruction in oral hygiene. Prophylactic odontotomy is also included as a routine preventive measure. It was the impression of the Mission that a very necessary emphasis is placed on prevention and that observations made at the Training School and at school dental clinics indicated that the clinical standard of the final year students was remarkably high. The cavity preparation, if anything, was on the side of perfection and the finish of the fillings was very good. The approach to the child patient was direct and confident and drew a response of complete confidence. The nurse is expected to devote part of her time to health talks to children in school and to chair-side instruction. The Mission was impressed with the efficiency of this system.

The dental opinion could, in view of this Mission, be fairly crystallized in the often repeated expression, "The children are conditioned by the time they come to us" or else, "The nurses have a way of dealing with them; we have not the time." The dentists met were in arms at any suggestion of clinical shortcomings, indeed a strong impression was gained that the New Zealand Dental Association takes much of the credit for the institution and the development of the Scheme.

The Mission was unanimous in the opinion that the training of the New Zealand school dental nurse has resulted in a high standard of technical efficiency in the treatment of children within the limits laid down and that they consider that the dental nurse system in New Zealand meets an urgent need.

How different the American Report! It is stated in this Report that the approach to a solution of the dental problem in New Zealand has been to develop a large-scale reparative service, that no attempt of any consequence has been made to reduce the size of the problem through research and prevention. Owing to the fact that under the dental nurse plan dental care for children has been relegated almost entirely to partly trained auxiliary

personnel, the scheme has had a deleterious effect on the scientific development of paedodontics. The school dental nurse is expected to diagnose Vincent's disease, gingivitis, etc., but they are given very little scientific training for making such diagnoses. They render operative and surgical services in the oral cavity without sufficient knowledge of the relationship between mouth health and general health, therefore they are not qualified to practise dentistry.

The quality of dental care by school dental nurses was graded by this American from observations in the school dental clinics as follows: Examination and Diagnosis—poor; Treatment Planning—poor; Observation of growth and development—poor; Amalgam fillings—mediocre; Oral prophylaxis—good; Extractions—mediocre; Preventive Orthodontics—poor; Child management—good; Dental health education—mediocre.

This reporter also refers to the haphazard operative techniques as a result of inadequate supervision.

One cannot possibly read these two reports and reconcile them in any way. If the American Report is correct one must at least conclude that the dental profession in New Zealand is open to grave criticism since they are apparently in strong support of this System. This writer is not prepared to so condemn from the evidence available. However, one can only look in amazement at the great variation found in these two reports. They are largely opposed to one another and both can't be right.

When one goes to New Zealand to study this much discussed problem of the school dental nurse, does one go to try to confirm preconceived ideas or does one go with an open mind to try to arrive at a conclusion as to whether or not this New Zealand System is working out to the advantage of the public health?

One cannot help but wonder also as to what the findings would be if the New Zealand Dental Association were to send over a delegation to study the status of children's dentistry in this country as carried out, not by nurses, but by graduate dentists. Would they find all occlusal fissures carried out to the proper extent and depth? Would they find all proximal boxes of compound cavities carried far enough gingivally? Would they observe faulty matrix technique and faulty proximal contouring? Would they always find an adequate cement base?—all of which criticisms have been made about the work of these New Zealand dental nurses in the American Report. Would they even find that nearly all of our school and pre-school children are receiving reasonable dental treatment at all, as they are in New Zealand? One would have to be an extreme optimist to give an affirmative answer to these questions.

In the meantime are we about where we were before these delegations went to New Zealand to study this problem? It would seem that much depends upon what kind of glasses one wears in observing this plan at work. The question is, "Where do we go from here?"

BOOK REVIEW

Fluoridation in the Prevention of Dental

Caries, a manual prepared by the Council on Dental Health of the American Dental Association. Paper cover, 28 pages.

This book has been prepared for the purpose of summarizing the technical information in the caries prevention procedure that is now being widely adopted in the United States.

The following subjects are dealt with: "Endemic Dental Fluorosis"; "Mechanism of Fluorine Action"; "Fluoride Intake in Water and Food"; "Fluoride Metabolism"; "Toxicity"; "Optimum Fluoride Concentrations"; "Compounds"; "Feeders"; "Mechanical Pro-

cedures"; "Cost"; "Present Results of Fluoridation Projects" and other phases of this problem.

As fluoridation offers the greatest hope for preventing caries because of its easy application for large number of people and its relatively low cost, this book should be widely read, since all dentists should be interested in this problem.

The American Dental Association is to be congratulated on making this well-worth-while manual on Fluoridation available to the dental profession.

M.H.G.

CORRESPONDENCE

THE DENTAL SPECIALIST

To the Editor:—(Open letter to the Dental Profession)

Not very long ago you wrote a number of editorials in the Journal of the C.D.A. dealing with the role and status of the dental specialist. You expressed a mature opinion, based on 47 years of partly specialized practice, with the added weight of editorial opinion when you stated that, "The whole question of specialization needs investigation," that "When a man must agree to limit his practice 100% to his specialty before he can be registered as such, ideals have to be thrown out of the window."

Last week the writer realized that your fatherly homilectic and most noteworthy contribution to the cause of dentistry went by the board. Like the last of the Mohicans, I stood my ground during my 25 years of partly specialized practice in periodontia, only to receive the final decree based on a recent so-called "Bill of Rights" which states: "No member of the said college (Royal College of Dental Surgeons of Ontario) shall announce or hold himself out to the public as a specialist, or as being specially qualified in any particular branch of dentistry unless he has complied with additional requirements established by the board of the R.C.D.S. of Ontario, and is the holder of an unrevoked certificate of qualification as a specialist."

The writer feels strongly that when men have devoted a good part of their lives to

Research, to perfecting their skill, to helping both the profession and the public by the written as well as the spoken word, by unselfishly giving clinics and demonstrations for years, and even getting recognition by fellow dentists of the United States in their Academy of Periodontology (who recognize partial specialists) you are left wondering at the specious reasoning and narrow outlook of a board which sides in with the demands of the "100 Percenters"—the full-time specialists.

Coincidentally, this month's issue of the C.D.A. pp 219 contains several interesting tables of statistics.

"Number of Practising Specialties by provinces discloses the fact that there are only 117 full time specialists in Canada. Of these, there are 19 full time periodontists, 7 paedodontists, 35 oral surgeons and 56 orthodontists. There are a total number of only 4912 dentists practising in Canada (Table 1 pp 218), 230 dentists are employed in Health Services (Table 4). There are on the other hand 14,600 medical practitioners in Canada. The College of Physicians and Surgeons in Ontario informs me that they do not compel medical specialists to register in Ontario, and do not define their limitation of practice.

In other words, the oldest profession in history, with three times as many practitioners, enriched with endowments, public confidence and support, with a dignified status such as no other profession enjoys, sees no reason for limiting the term specialist *only* to "100 Percenters".

But on the other hand, the dental profession, a neophyte, just creeping out of its mechanical period into the health and preventive field, with very little endowment for research and expansion, are embarking on a precarious course which the late scholarly Dr. Cowling termed "the barren pit of over-specialization." We dare to discourage men of ability, of integrity and merit at a critical time in world history when our government and the nation expect higher health standards to enable us, as participants of the Atlantic Pact nations to give our very best aid to our people, so that they may be better able to defend themselves against a possible cataclysm of World War III. Indeed, it is a time to say, "Let's Cry Havoc".

Not very long ago, Chancellor Vincent Mas-

sey aptly stated at a university commencement, "Today the world needs scientific philosophers and philosophic scientists." Has it never occurred to our Dental Board that many of our older practitioners are integrated both into the cultural and political life of our community? Some of us, like the writer, occupy positions as presidents of historical and archaeological societies, men who have enriched their lives with a deeper understanding of human needs, and a respect for the dignity and rights of the human individual.

"But wisdom where shall it be found?

And where is the place of understanding?

Man knoweth not the price thereof". Job.

(Signed) M. L. Dymont, D.D.S., 2T6,
220 Bloor St. West, Toronto, Ont.

ROYAL CANADIAN DENTAL CORPS NEWS

Major Wm. Sinclair recently completed a course on Advanced Dentistry at the Dental Division Army Medical Service Graduate School, Army Medical Centre, Washington, D.C.

Major T. L. Marsh attended a course at the University of Toronto on Dental Radiology April 2-6.

Capt. F. M. Nesbitt, Sgt. W. B. Gilbert, Sgt. D. G. Flesher and L/Cpl. W. C. Sawyer compose the dental detachment serving in Korea with the 2nd Battalion, P.P.C.L.I.

Cpts. J. G. Butler, G. C. Evans and W. W. Anglin have recently been promoted to the rank of Major.

Major Butler was born in Princeton, B.C. He attended High School there and matriculated to Victoria College. He studied Dentistry at the University of Toronto, graduating in 1944, following which he was appointed to the R.C.D.C.

Major Evans was born in Bow Island, Alta. He was graduated in Dentistry from the University of Alberta in 1943. He joined the Corps following graduation and served until 1946 when he returned to civilian life. In 1947 he was reappointed in the Active Force and has been serving in Western Canada since that time, including several months aboard HMCS "Ontario."

Major Anglin was born in Windsor, N.S. and moved to Sackville, N.B., at an early age. He attended Mount Allison High School and McGill University, graduating in Dentistry in 1944. He was immediately appointed to the Corps and has

been serving in Eastern Canada since that time.

Major J. G. Butler, A/Sgt. A. C. Vout and Sgt. A. D. Brown are with 421 Sqdn. R.C.A.F. at Odiham, Hants, England.

Major-General Harold John Higgins, C.B., O.B.E., F.D.S., K.H.D.S., Director, Army Dental Service, died in Dublin on March 4, 1951.

Born in Cork in 1894, he qualified at the Royal College of Surgeons, Dublin, in 1916. He was granted a temporary commission as a dental surgeon in 1918 and a regular commission in the A.D. Corps in 1921. He was appointed Director, Army Dental Service, in 1948.

Harold Higgins will be deeply mourned by the Corps of which he was so able and so loved a Director and by his countless friends in other Arms. His tragically early death will come as a shock to those unaware that illness beset him last autumn. His death is a severe loss to his Corps for his heart and all his endeavours were for the Corps and the Service. In character he was quiet and direct; he was strong but his strength was tempered by understanding and great charm. Friendship he held in great esteem and those who met him were at once his friends, for never in a man was there more kindness than that which shone in Harold Higgins.

He was unmarried.

Brigadier R. A. Broderick writes: Many emergency commissioned officers in the Royal Army Dental Corps will be saddened by the loss of Major-General H. J. Higgins. Owing to the fact that about twenty-five of his thirty years of

service were spent abroad, General Higgins was not as well known to members of the profession outside the service as he deserved to be. However, on his appointment Director Army Dental Services of the Invasion Force in 1943 he came into contact with a large number of officers who had little experience of service life. His interest and keenness on the professional side of the work and his hatred of red tape and returns were at once obvious and his kindly genial manner in dealing with young officers, coupled with his undoubted ability as an administrator, won him deserved popularity.

He followed, as Director, Major-General Austin and immediately pressed forward the latter's ideas for improvements within the Corps and it is very satisfac-

tory to know that he lived long enough to see both the appointment of specialists and the granting of paid study leave in approved cases firmly established, as these two points were in the forefront of his mind.

At the end of the war he was gazetted O.B.E. and on his appointment as Director he was made an Honorary Dental Surgeon to the King. Twelve months ago he was appointed C.B.; previously he had been elected to the Fellowship in Dental Surgery of the Royal College of Surgeons.

General Higgins has left behind him a large number of friends, particularly in the Army Medical and Dental Services. Wherever he went he made friends and these all mourn his passing.

CANADIAN DENTAL ASSOCIATION NEWS

FROM THE OFFICE OF THE SECRETARY

Reduced Fares for Rail Travel to the Annual Meeting:—The Canadian Passenger Association has authorized special convention rates for members of the Canadian Dental Association and their families travelling by rail to the Annual Meeting in Ottawa. Identification certificates permitting members to purchase tickets at a considerable saving may be obtained on application to The Secretary, Canadian Dental Association, 234 St. George St., Toronto, Ontario.

Dates of Sale:—Round trip tickets will be issued as follows:

From British Columbia:—

September 12th to 18th incl.

From Alberta:—

September 13th to 19th incl.

From Saskatchewan:—

September 14th to 20th incl.

From Manitoba and Ontario (west of

Ft. William and Armstrong):—

September 15th to 21st incl.

From points in Eastern Canada (i.e. Fort William, Armstrong, Ontario, and points east thereof) from September 15th to 21st inclusive (except from Newfoundland, where authorized starting dates will be September 12th to 18th, inclusive).

Fare Basis (Adult):—Round trip tickets will be at one and one-half of the normal adult one way first class, or coach class fares, plus 25 cents, upon presentation and surrender of Identification Certificate to ticket agents.

Return Limit:—Tickets sold on this basis will bear final return limit of thirty days after the date on which the ticket is valid to start the going journey.

Registration Certificates of Annual Meeting:—Registration certificates enabling members to claim deductions for Income Tax purposes will be mailed to all members who register at the Annual Meeting. It is important therefore that those who wish to have such certificates make sure they register upon arrival at the meeting. **Certificates cannot be provided to members who have not registered.**

XI International Dental Conference, London, England, July 19th to July 26th, 1952:—Considerable interest is being shown in the International Dental Congress to be held in the Royal Festival Hall, London, England, July 19th-26th, 1952. It is anticipated that dentists representing practically all countries of the world will be in attendance. Owing to transportation difficulties it is essential that those intending to attend make reservations at the earliest possible date.

Application forms, detailed information, and suggestions respecting travelling arrangements may be obtained by writing The Secretary, Canadian Dental Association, 234 St. George St., Toronto.

The Budget 1951:—Of particular interest to members of the profession upon a salary basis of payment is the amendment to the Income Tax Act contained in the presentation of the Budget by the Minister of Finance on April 10 last.

The Amendment referred to reads as follows:

"That, for the purpose of computing income from an office or employment for

the 1951 or a subsequent taxation year, there may be deducted certain amounts paid in respect of

(a) travelling expenses that the officer or employee was required by the contract of employment to incur,

(b) professional membership dues where the officer or employee was required by the contract of employment to maintain his professional status,

(c) office rent or salary to an assistant or substitute required by the contract of employment to be paid by the officer or employee,

(d) supplies consumed directly in the course of the employment for which the officer or employee was required by the contract of employment to pay, or

(e) Union dues."

Library Facilities:—"The announcement of the establishment of a library at C.D.A. Headquarters was made last November. Since that time the library has received considerable support. The American Dental Association has generously made a large shipment of duplicate books. Several members of the Association have shown their interest by presenting books to the library.

As previously announced, monies contributed to the Library Trust Fund are

entitled to tax relief under The Income Tax Act. We are pleased to report that several hundred dollars has already been received from members. These monies will provide for the purchase of new books.

In due course a list of books will be provided to the membership making available a library service. The library is open daily from 9.00 a.m. to 5 p.m. excepting Saturday and Sunday, for the use of members."

T. HOWARD GRAHAM, D.D.S.,
Hon. Librarian.

The Brantford Fluorine Experiment:—

The following tables are taken from an interim report on the fluoridation of the Brantford water supply, which appears in the March 1951 issue of The Canadian Journal of Public Health. Statement is made in the report that it is purely a record of local studies: "... in 1948 the Department of National Health and Welfare became interested in the Brantford fluorine experiment. As a result, Dr. H. K. Brown, Chief Dental Officer, undertook a long range comparative study of dental conditions in Stratford, Sarnia and Brantford, which in the course of years should yield valuable data and valid conclusions."

TABLE I

Combined Surveys of Brantford School Children
(Continuous Residents only), 1944 and 1945
Pre-Fluorine Surveys

Age	No. of Children	No. with D.M.F.'s*	Permanent	No. of D.M.F.'s Deciduous	Total	D.M.F.'s per child
5	318	261	33	1793	1826	5.74
6	556	489	223	3692	3915	7.04
7	616	573	1023	4177	5200	8.44
8	614	579	1499	3931	5430	8.84
9	608	595	1936	3403	5339	8.78
10	565	546	2148	2119	4267	7.55
11	604	585	2829	1054	3883	6.42
12	658	648	4151	416	4567	6.94
13	531	514	4132	107	4239	7.98
14	307	305	2639	24	2663	8.67
15 and 16	105	103	1044	4	1048	9.98
Total	5482	5198	21657	20720	42377	7.73
Total 12-14	1496	1467	10922	547	11469	7.66

*D.M.F.: diseased teeth—those with present decay; missing teeth—those which have been extracted; and filled teeth—those with cavities restored by fillings.

The first post-fluorine dental survey was made in the fall of 1946, after seventeen months of exposure to fluoridated water. The results are given in Table II.

(Continued on Next Page)

"A man should be proud of the place in which he lives and he should live there in such a manner the place can be proud of him."—Lincoln.

"We broadcast daily, not knowing how many receivers we reach."

TABLE II

First Post-fluorine Survey, Brantford School Children, 1946

Age	No. of Children	No. with D.M.F.'s	Permanent	No. of D.M.F.'s Deciduous	Total	D.M.F.'s per child
5	360	259	23	1482	1505	4.18
6	342	279	170	1961	2131	6.23
7	290	276	532	1866	2398	8.26
8	278	271	766	1812	2578	9.27
9	283	278	981	1603	2584	9.13
10	301	297	1276	1234	2510	8.33
11	274	273	1348	628	1976	7.21
12	258	255	1631	215	1846	7.17
13	236	234	1873	71	1944	8.23
14	117	117	1108	20	1128	9.64
15 and 16	48	48	466	—	466	9.70
Total	2787	2587	10174	10892	21066	7.55
Total 12-14	611	606	4612	306	4918	8.01

The second and succeeding post-fluorine dental surveys were made at twelve-month intervals. All were made by the same dental officer, using the same methods and procedure.

The tables record the dental condition of children who were born in Brantford and have lived here all their lives. Permanent and deciduous teeth are recorded separately.

TABLE III

Second Post-fluorine Survey, Brantford School Children, 1947

Age	No. of Children	No. with D.M.F.'s	Permanent	No. of D.M.F.'s Deciduous	Total	D.M.F.'s per child
5	302	210	8	1241	1249	4.13
6	347	267	90	1700	1790	5.16
7	332	298	333	2039	2372	7.14
8	263	255	609	1684	2293	8.72
9	262	251	734	1429	2163	8.25
10	280	272	1044	1055	2099	7.46
11	292	286	1376	572	1984	6.67
12	264	260	1545	221	1766	6.69
13	239	231	1677	56	1733	7.25
14	122	121	1034	14	1048	8.59
15 and 16	48	46	458	1	459	9.56
Total	2751	2497	8908	10012	18920	6.87
Total 12-14	625	612	4256	291	4547	7.27

TABLE IV

Third Post-fluorine Survey, Brantford School Children, 1948

Age	No. of Children	No. with D.M.F.'s	Permanent	No. of D.M.F.'s Deciduous	Total	D.M.F.'s per child
5	370	227	7	1102	1109	2.97
6	399	311	100	1885	1985	4.97
7	350	297	260	1805	2065	5.61
8	323	296	538	1918	2456	7.60
9	258	247	696	1325	2021	7.83
10	237	229	769	856	1625	6.85
11	268	256	1106	519	1625	6.06
12	286	280	1600	199	1799	6.29
13	227	224	1475	112	1587	6.99
14	103	99	686	23	709	6.88
15 and 16	42	41	350	2	352	8.38
Total	2863	2507	7587	9746	17333	6.05
Total 12-14	616	603	3761	334	4095	6.64

TABLE V

Fourth Post-fluorine Survey, Brantford School Children, 1949

Age	No. of Children	No. with D.M.F.'s	Permanent	No. of D.M.F.'s Deciduous	Total	D.M.F.'s per child
5	290	179	16	901	917	3.16
6	411	277	59	1467	1526	3.72
7	382	328	286	1940	2226	5.83
8	327	293	449	1724	2173	6.61
9	313	294	683	1595	2278	7.28
10	250	239	789	971	1760	7.04
11	238	225	890	452	1342	5.64
12	255	246	1276	199	1475	5.76
13	263	255	1699	74	1773	6.74
14	104	100	728	24	752	7.23
15 and 16	37	36	297	6	303	8.19
Total	2870	2472	7172	9853	16525	5.75
Total 12-14	622	601	3703	297	4000	6.43

Table VII summarizes the changes which have taken place in the dental-caries experience of Brantford school children over the five-year period during which fluorine has been added to the municipal water supply.

Table VIII gives the numbers and percentages of children with perfect teeth from 1945 to 1950.

These tables are presumptive evidence of the value of fluoridated water in the prevention of dental caries. They are presented in this interim report, in justice to the people of Brantford, who are entitled to know to what end they have so splendidly supported the fluorine experiment.

TABLE VI

Fifth Post-fluoride Survey, Brantford School Children, 1950

Age	No. of Children	No. with D.M.F.'s	Permanent	No. of D.M.F.'s Deciduous	Total	D.M.F.'s per child
5	310	168	3	809	812	2.62
6	334	233	20	1303	1323	3.96
7	390	305	197	1592	1789	4.58
8	368	328	482	1948	2430	6.60
9	313	285	570	1482	2052	6.51
10	296	275	775	1041	1816	6.14
11	243	237	854	530	1384	5.69
12	220	202	943	154	1097	4.98
13	241	236	1343	75	1418	5.88
14	119	118	893	9	902	7.57
15 and 16	39	37	284	6	290	7.44
Total	2873	2424	6364	8949	15313	5.32
Total 12-14	580	556	3179	238	3417	5.89

TABLE VII

Changes in the Dental-Caries Experience of Brantford School Children, 1944-1950

Age	Pre-Fluoridation 1944 and 1945	Post-Fluoridation					% Reduction
		1946	1947	1948	1949	1950	
5	5.74	4.18	4.13	2.97	3.16	2.62	54%
6	7.01	6.23	5.16	4.97	3.72	3.93	43%
7	8.44	8.26	7.14	5.61	5.83	4.58	45%
8	8.84	9.27	8.72	7.60	6.61	6.60	20%
9	8.78	9.13	8.25	7.83	7.28	6.51	26%
10	7.55	8.33	7.46	6.85	7.04	6.14	18%
11	6.42	7.21	6.67	6.06	5.64	5.69	11%
12	6.94	7.17	6.69	6.29	5.76	4.98	28%
13	7.98	8.23	7.25	6.99	6.74	5.88	26%
14	8.67	9.64	8.59	6.88	7.23	7.57	12%
15 and 16	9.98	9.70	9.56	8.38	8.19	7.44	25%
Total	7.73	7.55	6.87	6.05	5.75	5.32	31%

TABLE VIII

Yearly Percentages of Brantford School Children with Perfect Teeth, 1944-1950

Year	Number of Pupils	Having Perfect Teeth	
Pre-fluoridation 1944 and 1945	5482	284	5.18
Post-fluoridation			
1946	2787	200	7.17
1947	2751	254	9.23
1948	2863	356	12.44
1949	2870	398	13.86
1950	2873	449	15.63

NEWS FROM THE PROVINCES

SASKATCHEWAN

Regina and District Dental Society held a regular dinner meeting April 30, at the Kings Hotel in Regina with Dr. H. R. Kerr in the Chair.

Present with the Society were members of the Saskatchewan College of Dental Surgeons and a number of their activities were ably described by the President of the Council, Dr. MacDonell of Saskatoon.

Reports of Committees were heard and progress was noted in various phases of the Society's itinerary among which were:

1. Obtaining and equipping dental operating rooms in Regina's two large hospitals.

2. Fee schedule discussion arising out of a recent fee list of the Saskatchewan Provincial Health Department.

Liaison with the Saskatchewan Dental Council was advocated as a means of presenting the Society's Committee findings on fees.

A motion to increase the Society fee for the coming year to embrace clinics and clinicians was defeated.

A motion to form a Public Health Committee was passed. There will be a three member committee to be enlarged later.

The First Dental Hygienist in Canada: Miss Mary Brett of Regina, daughter of Dr. A. J. Brett, has been presented with a dental hygienist's certificate by the Council of the College of Dental Surgeons of Saskatchewan.

From 1942 until 1945 Miss Brett served with the Women's Division of the R.C.A.F. as a dental assistant. She entered the University of Minnesota in 1946 to study for her hygienist's certificate.

Saskatoon Dental Society: At the last two meetings, this Society has dealt with

a revision of a minimum fee schedule. A committee had made a considerable study of this subject and submitted its recommendations. A great deal of time and effort had been given to this very timely matter and the meetings received almost a hundred per cent attendance. Apart from the many hours spent by the committee, the Society discussed the various items for at least six hours.

L.D.H.

MANITOBA

Editor's Honeymoon: Manitoba news is missing this month for one very acceptable reason. The Manitoba editor, Dr. J. F. Morrison, is away on his honeymoon.

We would sincerely congratulate Dr. Morrison and wish for Mrs. Morrison and himself many years of much happiness.

ONTARIO

The final meeting of the **London and District Dental Society** was held April 21, 1951 at the Cobblestone Inn in London. **Kent County Dental Society** joined the London Society bringing 16 members who enjoyed the social hour followed by an excellent dinner. Dr. D. C. Stiles presided at the business meeting at which Dr. R. L. Revell of Woodstock received a Life Membership in the London Society. This was ably presented by Dr. R. L. Treleaven of Woodstock on behalf of the Society. Dr. Revell is completing fifty-five years in the practice of Dentistry. Dr. A. A. Hicks of Chatham, president of the Kent Dental Society, announced the election of Dr. Jack Willard as president of that Society for the coming year. Dr. Jack Harris of London was congratulated by Dr. S. A. Moore, on behalf of the society, for his achievement in winning the award presented by Dr. Daley of Cleveland for Clinical and Theoretical Dentistry for Children.

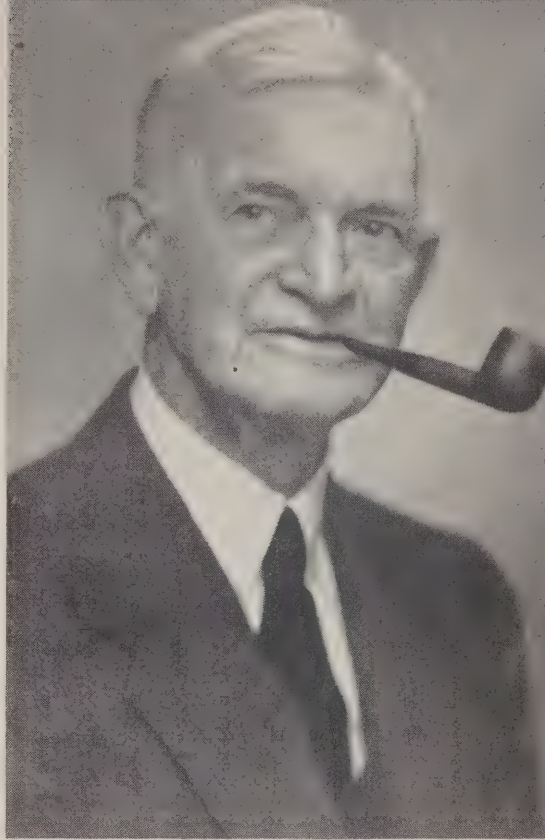
Greetings were brought to the meeting by Dr. H. G. Fletcher on behalf of the London Academy of Medicine and Mr. W. D. Smith representing the Middlesex Law Society. The Kent Dental Society brought two sound films from the Bureau of Standards in Washington which were thoroughly enjoyed by the 70 dentists present. Dr. Murray Campbell introduced the films, one being on Acrylic Resins and the other on Gold Inlay Casting. Dr. J. A. Guest thanked the Kent Society for their part in the enjoyable evening.

The research prize of \$500 awarded annually by the **American Association of Orthodontists** in an essay contest was this year won by **Dr. David Watt** who worked under the direction of **Dr. C. H. M. Williams** of the Faculty of Dentistry, University of Toronto. Dr. Watt's prize winning essay was entitled, "The Effects of the Physical Consistence of Food on the Growth and Development of the Mandible and Maxilla of the Rat." As Dr. Watt has left for his home in New Zealand, Dr. Williams presented the essay at the Association's meeting in Louisville, Kentucky on April 23-26. This is the second consecutive year that this prize went to a member of the staff of this Faculty.

The figures for **Graduate Consultation Service in the Toronto Faculty** have shown a considerable increase over those for last year. In 1949-50 session 150 formal requests for advice and consultation were received, whereas, during the present year 230 cases have passed through the various departments. In addition to these cases, the Department of Preventive Dentistry provides a service in the field of nutrition. During the present session approximately 900 patient dietary analyses have been made for private practitioners.

The **Extra Mural Lecture program of the Toronto Faculty** also compares favourably with previous years. Thirty-seven lectures were given in twenty-eight different Ontario centres with an approximate audience of 1052 dentists. In addition there were twenty-five lecture engagements filled outside the province of Ontario by members of the Faculty Staff during the session now ending.

Essex County Dental Association held its April meeting at the Norton Palmer Hotel in Windsor on April 26. Dr. W. J. Linghorne of the Faculty of Dentistry, University of Toronto was guest of the Society. His subjects were "Application of the Periodontal Pack" and "Partial Denture Design with Special Reference to the Preservation of Natural Teeth."



DR. R. L. REVELL
Woodstock

The **Ladies' Auxiliary to the Toronto Academy of Dentistry** held its annual meeting at the Royal York Hotel on April 19 with the president Mrs. W. W. Philp presiding. Dr. Mark S. Boyes, newly elected president of the Academy was in attendance and expressed appreciation of the work of the Auxiliary and commended the group for raising \$785.00 to be given to the Faculty of Dentistry for services to needy children with dental abnormalities.

Mrs. E. T. Guest presented a bouquet of spring flowers to the retiring president, Mrs. W. W. Philp on behalf of the Auxiliary.

The new executive for 1951-52 are as follows: President, Mrs. F. H. Shepherd; First Vice-president Mrs. J. E. Verth; Second Vice-president, Mrs. W. C. McLean; Recording Secretary, Mrs. W. L. McMachen; Corresponding Secretary, Mrs. Harvey Milburn; Treasurer, Mrs. K. M. McPherson; Councillors, Mrs. M. G. Boyes, Mrs. H. K. Box, Mrs. H. E. Leyland, Mrs. W. G. McIntosh, Mrs. R. J. Murray and Mrs. G. R. Stinson.

The **Canadian Society of Dentistry for Children** had its inaugural meeting in Toronto on May 12 in an all-day ses-



DR. A. W. S. WOOD

President

Canadian Society of Dentistry for Children

sion at the Royal York Hotel. About 200 dentists were in attendance at this history making meeting. Dr. S. A. MacGregor, well known throughout Canada, for his work in dentistry for children, president of this society was chairman and expressed utmost satisfaction in the great interest shown by the enthusiasm and the numbers present. He envisioned that through the influence of this group, increasing in numbers as it will, a much improved dental health for children and subsequent greater longevity of the natural dentition. Dr. MacGregor made especial mention of the efforts contributed by his executive and council bringing this new society into being and arranging the splendid program for its first meeting. **ALL DENTISTS WHO SO DESIRE MAY BECOME MEMBERS** and thus in a united search for knowledge the dental needs of children may be better served. Those who served on the interim executive in addition to the president are: President-elect, Dr. A. W. S. Wood; Vice-President, Dr. E. R. Bilkey; Secretary-Treasurer, Dr. W. J. Dunn and councillors Drs. G. T. Milton, L. Scott, J. Marshall and H. R. Skilling and Historian Dr. R. Honey.

The program for the meeting featured the following speakers: Dr. Alan Brodie, Dean of the Faculty of Dentistry, University of Illinois; Dr. Alan Brown, Professor of Paediatrics, University of Toronto; Dr. J. H. Ebbs, Assistant Professor of Paediatrics, University of Toronto; Dr. M. A. Cox, Professor of Preventive Dentistry, Faculty of Dentistry, University of Toronto; Dr. E. W. McHenry, Professor of Public Health Nutrition, School of Hygiene, University of Toronto and Dr. Gordon Nikiforuk, Assistant Professor of Paedodontics, Faculty of Dentistry, University of Toronto.

Dean Brodie appeared twice in the program of the day speaking first on the subject, "Dentistry for Children—A Challenge" and latter "The Growth of the Jaws and the Teeth". Dr. Cox, in his lecture, suggested that a high protein diet was conducive to producing a greater immunity to caries. He pointed out that Urea was an end product of Protein Metabolism and therefore Urea present in Saliva and Blood as well as Urine is higher when protein in the diet is high. The normal diet has a ratio of about 55% carbohydrate, 30% fat and 15% protein. A diet for a celiac patient is necessarily very high in protein e.g. 85% protein, 0% fat and 15% carbohydrate. A celiac patient is caries immune. The great increase of Urea biproduct in such a diet could be a potent factor in inhibiting caries.

Another suggestion made by Dr. Cox was that by increasing a caries susceptible patient's diet in protein the bacterial flora of the mouth is changed by raising the proteolytic type of bacteria in the flora and at the same time reducing the aciduric type. Dr. Cox suggested a diet as high as 35% in protein would be highly beneficial.

Dr. Ebbs presented a very interesting discussion on the Growth of the Child. He observed that children today are taller and heavier than for a similar age a generation ago. He also suggested the children afflicted with long-term diseases such as cardiac and dental diseases, their growth for their age is retarded and they are usually backward at school. He further emphasized at considerable length the influence of heredity on body types e.g.; some children are excessively heavy while others are tall and lean no matter how much they eat.

In his luncheon address DR. ALAN BROWN ANNOUNCED THE APPOINTMENT OF DR. S. A. MacGREGOR AS HEAD OF THE DENTAL DEPARTMENT OF THE NEW HOSPITAL FOR SICK CHILDREN. During Dr. Brown's rather entertaining address he made a few observations that might well be given some real thought—"It is only

through organizations of interested professional people that the truths of Dentistry for children can be advertised to the people. Let me stress that in my opinion heredity is the important single factor in the development of a child . . . Milk is an important food but not a must in the diet of a child . . . Thumb sucking after 5 years is conducive to malocclusion and much malocclusion is due to heredity . . . The value of public addresses to get over health education to the public cannot be over-emphasized . . . RESEARCH IS AT THE TOP OF OUR PROGRAM ON PREVENTION AND SHOULD BE CONDUCTED BY FULL TIME QUALIFIED RESEARCH WORKERS."

Dr. Gordon Nikiforuk presented a very scholarly paper on the "Evaluation and Control of Dental Caries." This will be published in this journal shortly.

The entire program for the day was most satisfying to all in attendance and bespeaks for a great future for this organization.

Membership at the present time stands at 235. The new officers for 1951-52 are: Honorary President, Dr. S. A. MacGregor; President, Dr. A. W. S. Wood; President-elect, Dr. Frank Dawe; Vice-President, Dr. E. R. Bilkey; Secretary-Treasurer, Dr. W. J. Dunn; Historian, Dr. R. C. Honey. Council—Dr. Russell McMillen, Carleton Place; Dr. Ernest Bilkey, Barrie; Dr. Loren Scott, Brantford; Dr. John Harris, London and Dr. Michael Derrick, Ottawa.

QUEBEC

Infiltration in the maxilla and block in the mandible is about all that you need to know with regard to **Local Anaesthesia** stated **Dr. Mervyn Rogers** when he addressed the members of **The Montreal Dental Club** at a dinner meeting held on April 24, 1951.

Dr. Rogers, Lecturer in Local Anaesthesia of the Faculty of Dentistry of McGill University, addressing the members of his own club, stressed the use of the supra periosteal injection for all infiltration injections and the use of the direct approach to the apex of the tooth involved wherever possible. Where the zygomatic process interferes with the direct approach to the apices of the maxillary first molar, Dr. Rogers suggests depositing the anaesthetic mesial to the apex of the mesial root, and a similar amount distally. The use of the tuberosity injection is also of great value he suggests and is one which will anaesthetize the third, second, and the distal and palatal roots of the first molar; adding $\frac{1}{2}$ cc. above the apex of the mesial root of the latter will take care of all three molars.

Care should be exercised in the tuberosity injection to prevent the deposition of the solution beyond or lateral to the tuberosity due to the presence of a venous plexus in the area.

With regard to the palatal injections, Dr. Rogers reminded his audience that the anterior palatine and naso palatine nerves anastomose in the cuspid area; he also pointed out that if anaesthesia is not required to the lingual of the third molar, then an injection between the first molar and second bicuspid will anaesthetize from the second molar anteriorly to the first bicuspid without anaesthetizing the soft palate, uvula, and tonsils which will certainly be appreciated by most patients.

In the mandibular block injection, Dr. Rogers showed how the angle of the mandible varies considerably, as does the width and flare of the ramus. The sulcus containing the mandibular nerve, however, is always in the same position with respect to the ramus of the mandible; i.e., it lies midway between the anterior and posterior borders of the ramus, as well as mid-way between the base, and the sulcus between the condyle and coronoid processes. The speaker prefers the direct approach to the sulcus with the deposition of a few drops en route to anaesthetize the lingual nerve.

Failures in obtaining complete anaesthesia in the mandible are due either to faulty technique or to the presence of auxiliary nerves. The latter may be cared for by (a) injection of $\frac{1}{2}$ cc. downwards and backwards at the floor of the mouth lingually between the bicuspid to reach the cutaneous coli plexus; (b) a "low" block to anaesthetize the mylohyoid nerve; and (c) the long buccal injection which is often of great value in class V cavities.

With regard to the lower four anteriors, Dr. Rogers suggested infiltration slightly below the crest of the alveolar bone, where the bone is very porous, but not at the apices.

The speaker traced the history of anaesthesia from the use of the tourniquet 2000 years ago, through pressure, refrigeration, up to the present general and local anaesthesias. With regard to local anaesthesia, he discussed their properties and ingredients and mentioned xylocaine which is claimed to be five times as potent as procaine, but less toxic; due to this, less is required; also, with the addition of epinephrine, a very lasting effect is obtained.

Following a very interesting question period, Dr. Frank Burns expressed the thanks of the club. Approximately 75 members attended the meeting, presided over by the president, Dr. C. R. Seller.

R.F.H.

Dr. Walter S. Phelps was elected President of **The Montreal Endodontia Society** at the Annual Meeting held in the Medical Building, McGill University on April 23, 1951. The retiring president, Dr. Louis Rosen presided at the meeting which also elected to the offices indicated: Vice-president, Dr. J. P. Lantier; Secretary-Treasurer, Dr. George Zimmerman.

Following the presentation of reports by the retiring executive, and the election of officers for the season 1951-1952, a Panel Discussion covering the broad field of Endodontia was held with the following members taking part: Drs. M. Archambault, M. Goldenberg, W. J. Johnston, H. H. Pearson, A. D. Richardson and D. Tremblay; Dr. Pearson acted as moderator. As it is expected that this discussion will, at some future date, be printed in full in the *Journal*, no summary will appear at this time.

R.F.H.

The Obstetrician and the Dentist was the subject presented by **Dr. D. Sperling**, Montreal, to the members of the **Montreal Section of the American Academy of Dental Medicine**, at the April meeting held in the Windsor Hotel. The president, Dr. Wilfred J. Johnston, was in the chair.

Introduced by Dr. Louis Rosen, Dr. Sperling stressed that it is one of the prime duties of the obstetrician upon first seeing an obstetrical patient to advise dental examination and treatment. This, he says, should be done as early in the pregnancy as possible, and should be repeated before the baby is born and again some time after the puerperium. The reason for this advice is that: (a) women who are carriers of dental focal infections or other focal infections, are definitely more prone to the development of toxæmias; (b) foci of infection are one of the important underlying causes of the pyelitis of pregnancy; (c) it is quite possible that there may be some relation between some abortions and foci of affection in the teeth; and (d) such foci may be a cause of puerperal phlebitis.

The speaker feels that pathological conditions should and must be treated: "It is doubtful," he stated, "according to most obstetrical authorities, if any dental operation, carefully performed, will be as dangerous to the pregnancy, as the condition left untreated, or even treated in a palliative manner. Teeth requiring fillings should be filled; those teeth too badly decayed, or with abscesses . . . should be promptly extracted or treated according to the judgment of the dentist. To neglect their treatment adds materially to the risk of such complications . . . previously mentioned." Dr. Sperling

mentioned, however, that major operations should preferably be left at about the third month of pregnancy and also the last couple of weeks, if at all possible. Also, it might be wise to always check with the obstetrician prior to any major operation being performed; — to use adequate local anaesthesia; — to give permanent, even if radical relief, to eliminate infection.

Discussing the often controversial subject of increased caries—susceptibility in pregnant women, Dr. Sperling summed up the opinions of not only many obstetricians, but of dental research authorities and the American Dental Association by saying that "it can now be fairly stated that our original 'text' of 'tooth for baby' is wrong." Also, with regard to the calcium-phosphorus question, he quoted the Council on Dental Therapeutics as saying . . . "there is no direct positive evidence from either laboratory or clinic that the addition of calcium or phosphorus compounds to an otherwise ample diet influences in any definite manner the incidence of dental decay in the child, or the adult, or that it promotes the development of non-caries teeth in utero, in infancy and during growth, or in the adult. Nor is there any sound evidence that a calcium drain during pregnancy or lactation is lessened by the addition of these compounds when the diet is well balanced." He also stated that the fully formed tooth is not subject to decalcification as is bone (James).

With reference to pregnancy gingivitis, he quoted Maier and Orban as saying that there is no increase of gingivitis during pregnancy, but that pregnancy may aggravate a pre-existing condition.

The question of breast versus bottle feeding was reviewed and he agreed that from the point of view of the dentist, breast feeding was probably preferable: the work of Ramaker was reviewed at great length.

When a baby is born with a tooth erupted, he believes that it should be x-rayed to determine whether it is a pre-deciduous or deciduous tooth. If it is the former, it should be extracted; if the latter, the baby should "be put on the bottle"—for rather obvious reasons!

Following a very interesting question period, Dr. Sperling was thanked by Dr. Guy Langelier.

R. F. H.

On April 13, 1951, the **Mount Royal Dental Society** wound up its present season of clinics and lectures with an all day seminar on "**Crown and Bridge**" presented by **Dr. J. Schwartz** of New York City. Dr. Schwartz, who is the author of the textbook on Crown and Bridge and who has just returned from

a six month lecture tour around the world, was introduced by Dr. A. S. Solomon.

Starting his clinic on "Crown and Bridge", Dr. Schwartz described the construction of an Acrylic Jacket Crown using a cast metal hood and a prefabricated acrylic tooth.

Dr. Schwartz said that acrylics in Dentistry are definitely here to stay and predicted that within five years acrylics will be made to be as hard as porcelain and will probably replace it. The reason Dr. Schwartz uses a prefabricated tooth is because it is much harder—it is made of powder only, under great pressure and because by its use the shade selected is assured.

At 11.30 a.m. Dr. Martin Schwartz, Dr. J. R.'s son who accompanied him, presented a clinic showing a method of copper plating hydro-colloid impressions for the constructing of inlays or fixed bridges by the indirect method.

During the afternoon Dr. J. R. Schwartz demonstrated the practical wax-up of hood and acrylic jacket crown and then the wax-up of the cast gold for reception of an acrylic veneer.

Two motion pictures were then shown: one demonstrated the preparation of a central tooth for the reception of a jacket crown. The other showed the technique of laboratory construction and wax-up directly on patient of an acrylic jacket crown with cast metal hood.

The clinician was thanked by Dr. N. P. Solomon.

This Society held its annual Election Dinner Meeting on May 1, 1951. The dinner was preceded by a cocktail party. Following a hearty meal enjoyed by a large attendance of the membership, the retiring members of the executive and chairmen presented their annual reports. All reports dealt with the various phases of a very successful and active year and were well received by the audience.

The election of new officers for the

coming year then took place. Those elected are as follows: President—Dr. M. Star; Vice-President—Dr. D. T. Shizgal; Secretary—Dr. R. M. Wiener; Treasurer—Dr. J. S. Gruman; Ass't-Sec'y—Dr. S. Silver.

Members of the Executive: Drs. A. W. Bazerman, B. Bernfeld, P. J. Gitnick, M. Levitt, and C. Vosberg.

The new president Dr. M. Star thanked the outgoing executive for a job well done and pledged himself to maintain the high standards set by his predecessors.

Past president Dr. George Zimmerman presented a gift of appreciation to the outgoing president, Dr. I. Druckman, for his commendable work during the past year.

ALBERTA

At the regular meeting of the **Edmonton District Dental Society** on April 3, Drs. Maurice Steen and Al Urban were elected to membership in the Society.

Following dinner, the **Edmonton Periodontal Study Group** under the Presidency of Dr. Vic Lloyd, provided the program on Preventive Periodontia for the General Practitioner. The subject was divided in three parts. Drs. J. E. Neilson and J. Jackson presented papers on Occlusal Adjustment; Drs. R. B. Cameron and W. B. Webber presented papers on Prophylaxis and Scaling and Drs. D. Stewart and D. S. Gilmour spoke on home care. Following these very fine presentations, a general discussion period was held. Dr. R. H. Blaquiere expressed the appreciation of the Society for the excellent papers.

Calgary—Edmonton Golf Tournament, is to be held this year at Lacombe on May 27. "The Southerners" are losing confidence and are betting at only 5 to 1 that they defeat Edmonton for the third consecutive year. L. K. B.

We do not act rightly because we have virtues, but we have those because we have acted rightly.—Aristotle.

Beauty is of a nature that slips in and permeates our souls, and I further add that the good is the beautiful.—Plato

We have committed the Golden Rule to memory; let us now commit it to life.—Edwin Markham

Better to walk to reduce than to be reduced to walking.—Dr. Richard Hoffmann

BRITISH COMMONWEALTH NEWS

GREAT BRITAIN

A New Danger to the Profession:—It is not only the profession's clinical freedom that is in danger; its position at Common Law has also been attacked, and may be seriously prejudiced by recent decisions of the Dental Estimates Board. Under Common Law, when a general practitioner undertakes the treatment of any condition he undertakes to bring to it that amount of skill which it is reasonable to expect in any general practitioner, no more and no less, and he is entitled to his fee at the conclusion of the treatment, even if that treatment has not been successful. The Estimates Board care naught for established professional rights under Common Law, and prefer to lay down their own rulings for the profession. There cannot be a dentist on the Register who has not at some time in his career left behind a root or an apex which fractured in the course of an extraction, taking the view that it was in the best interests of the patient to wait several months, or even possibly years, before removing the remaining portion of the root. Dentists who have done this for health service patients are now finding that no matter how much time has elapsed since the original extraction, and no matter how complicated or difficult the removal of the apex proves to be, the Board take the view that no fee is payable by either the State or the patient.—*Bri. D. Jour.*, April 17, 1951.

The Charge For Dentures:—The Chancellor of the Exchequer, in his Budget

speech, said, with reference to the charges for dentures and spectacles, that the Government regretted having to make these charges but he believed that the vast majority would agree that it was necessary to impose a limit on the expenditure on health. The Government thought they had struck a fair balance between one item of social service and another. The charges would apply where there was the least danger of hardship and perhaps more danger of abuse than anywhere else in the health service.

IRELAND

Future Shortage of Dentists:—In the past four years out of 166 newly qualified dental surgeons, only 37 remained in Ireland. In the present dentist register 211 out of 560 are over 55 years of age. Practically half the register includes men who must be replaced in the near future.

INDIA

The Sixth All India Dental Conference was held in Bangalore February 16-19. The Souvenir Program of this Conference was most outstanding. The dentists of India are to be congratulated upon arranging such a comprehensive program in their great effort to promote the Science and Art of Dentistry and Dental Health Teaching, since India is far behind the countries of the Western Hemisphere in the matter of medical care and attention for sick and suffering humanity.

GENERAL NEWS

Orthodontic News:—At the Convention of the American Orthodontia Association held at Louisville, Kentucky, Dr. R. R. McIntyre of Calgary was made Chairman of the Canadian Orthodontic Society; Dr. J. Abra, Winnipeg, Vice-chairman; Dr. B. Dixon, Ottawa, Secretary.

The Truth About Airbrasive:—Charles A. Scrivener of San Francisco discusses this timely subject in part as follows in the April issue of the *Journal of the California State Dental Association*.

Airbrasive is not a painless method of cavity preparation. It does eliminate vibration, bone-conducted noise, pressure, and heat; and frequently no pain is experienced by the patient during its application. Patients are, however, for

the most part enthusiastic about their "sundblast" experience and request it in succeeding appointments. They are usually willing to make greater sacrifices for its use.

Our experience has led us to believe that the average dentist requires a minimum of fifty hours of concentrated application of technical exercises in order to attain basic knowledge and fair proficiency. This practice can be best obtained during the course of instruction at a school of your choice where adequate supervision is available.

Some few men who have completed the course of instruction are not enthusiastic about airbrasive. The reason for this feeling is usually because of one of the following:



DENTAL HYGIENE STUDENTS AT WORK IN OHIO *State University's new College of Dentistry Building*

The College offers a two-year training course for hygienists, whose work includes assisting the dentist in operative, surgical and laboratory procedures, as well as patients' oral prophylactic care.

1. Impatience in his ability to acquire rapidly the proficiency to satisfy operative criteria.

2. The operator approached the course with a closed mind and an antagonistic attitude.

3. Acceptance of the instrument in his office requires major alteration of the office space.

4. The cost of the instrument and instruction.

5. Present lack of demand by his patients for the technique.

Airbrasive provides the fastest known method of bulk removal of enamel. In the hands of a skilled operator its speed is approached only by the use of large diamond stones. The potential of rapid cavity preparation is definitely there, and again its use is limited only by the skill and proper application of the operator. By judicious use, most of its disadvantages can readily be met and overcome. Apparently the airbrasive powders present no health hazard either to the patient or to the operator.

Speaking as a patient, I can say that my experience in having a cavity prepar-

ed with airbrasive was my least unpleasant dental operation.

Airbrasive is not a method of better cavity preparation but ideal preparation can be made when its use is augmented by the use of hand instruments. Soft decay is not readily removed by airbrasive; however, after its removal by spoon excavators the cavity wall may be neatly finished by the abrasive stream.

I believe that airbrasive is here to stay and as publicity is gained by one way or another your patients soon will demand its use.

.

You can insure your teeth for less than \$20 a year.

At least that's what Dr. Bissell Palmer, administrative secretary of the Group Health Dental Insurance Co., Inc., told the American Association of Industrial Dentists, at Atlantic City, April 25.

Benefits of the plan can be made to apply to both subscribers and their dependents, providing the subscriber is a member of an employed group of 60 or more persons of whom at least 75 per cent enroll in the dental insurance plan.

However, Dr. Palmer said that each patient subscriber must first pay for dentistry necessary to correct existing defects. Then, he added, dental care becomes insurable on a maintenance basis, with an annual premium of \$19.80 for a single individual, \$39.60 for a man and wife, and \$72 for a family.

Dr. Palmer told the dental group, one of five organizations participating in the 1951 Industrial Health Conference here, that the insurance plan is being conducted on a pilot study basis with 25,000 subscribers. After two years a restudy will be made and indicated adjustments will be instituted, he said.

The dentists also heard a report from Dr. Harry H. Dougherty on an industrial dental health program for textile firms in Wyomissing, Pa. From 2,336 examinations made on workers in a year, Dr. Dougherty said, it was learned that 45 per cent of the employees required immediate treatment to relieve infection, abnormalities, or to provide adequate dentures. Only 21 per cent of the workers did not have any cavities and did not need dentures, Dr. Dougherty added.

The Journal of the American Dental Association has denounced opponents of fluoridation of community water supplies as more interested in voicing unsubstantiated opinions than in improving the dental health of children.

It placed those who oppose the public

health measure in the same category as those who have sought in the past to block progressive health advances.

"How anyone . . . can disregard the potential value of fluoridating communal drinking water is beyond comprehension," a Journal editorial declared.

Fluoridation, the process of adding small amounts of fluorides to public water supplies, was endorsed by the American Dental Association, the U.S. Public Health Service, the American Water Works Association and other authoritative groups after extensive research established the procedure as an effective, large-scale method for reducing tooth decay among children. More than 70 cities and towns throughout the United States are fluoridating their water. The editorial added:

"Already communities that have artificially fluoridated their drinking water . . . report a 30 to 40 per cent average reduction of dental caries (decay) among their children. Objectors to the process are invited to produce scientific evidence to discount that fact."

The Fluoridation of Municipal Water Supplies has been officially recommended by the New York State Department of Health. The Department will grant permission to localities which meet their specifications to add sodium fluoride to their water supply.

IN MEMORIAM

Major-General Harold John Higgins, C.B., O.B.E., F.D.S., K.H.D.S., aged 57, died in Dublin, March 4, 1951. An obituary notice appears in the Royal Canadian Dental Corps News Section of this issue of the Journal.

J. Rolland Hand of Ottawa, Ontario, aged 70, died suddenly at his home April 30. He was graduated from the Dental College of the Royal College of Dental Surgeons of Ontario in 1902 and had been practising dentistry in Ottawa ever since.

He was a sports enthusiast all his life. He was president of the Rough Rider Football Club 1925-1926. He was also president of the former Shamrock Hockey Club for several years.

Dr. Hand is survived by his widow, one son, a daughter, two brothers and one sister.

Roy G. MacGregor of Sarnia, Ontario, aged 63, died suddenly from a heart attack April 24.

He was graduated from the Faculty of Dentistry, University of Toronto in 1912 and commenced practice in Sarnia.

He was a member of Sarnia Yacht Club, the Marine Historical Society and the St. Paul's United Church. His hobby was building models of lake passenger ships, including the Hamonic, Noronic and also the South American.

Dr. MacGregor is survived by his widow, two daughters, two sisters and a granddaughter.

Heber Sproul of Newcastle, New Brunswick, aged 84, died April 8. He established a practice in Newcastle fifty years ago where he gained a fine reputation both in his profession and as a citizen. He is the last of three brothers, all dentists.

He was a member of Northumberland Lodge, No. 17, A.F. and A.M.

Dr. Sproul is survived by three sons, two daughters and five grandchildren.

Le Journal

DE L'ASSOCIATION DENTAIRE CANADIENNE

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Cinquante ans de progrès: usage avantageux de la radiologie dans l'exercice de la dentisterie*

par RENE ROCHON, doyen

Faculté de Chirurgie dentaire, Université de Détroit

L'histoire est basée sur les agissements humains; elle peut scruter plusieurs aspects de ces activités. L'histoire peut n'être que chronologique et décrire les événements dans leurs cadres de temps et de lieux. Cette étude peut-être passionnante à certains points de vue, mais elle manque de relief parce qu'elle ne relate que des faits passifs et des épisodes passés sans beaucoup de portée pratique. Une autre façon d'envisager l'histoire est d'analyser les actions des hommes, dans leurs rapports avec les circonstances. Cette conception de l'histoire est beaucoup plus vaste; elle embrasse les actes et les écrits en relation du progrès et de l'expérience; ces réalisations de chaque époque permettent à la science humaine d'avancer dans la voie de la perfection. Cette méthode de regarder l'histoire est plus captivante et plus constructive. Nous adopterons donc cette deuxième façon d'envisager l'histoire pour faire un rétrospectif de la radiologie, durant ces dernières cinquante années. Ces considérations nous montreront toute la valeur de la science radiologique, et sa signification après les mises en demeure de nos prédécesseurs et les directives, qui nous ont été tracées par les chefs de file du passé.

La découverte des Rayons-X par Wilhelm Konrad Roentgen, en 1895, a

marqué probablement le pas le plus décisif dans l'amélioration du diagnostic en dentisterie. Médecins et dentistes purent, dès lors, une fois pour toutes, scruter l'intérieur de l'organisme vivant, sans avoir recours à la chirurgie. Les dentistes furent dotés d'un instrument nouveau pour appuyer leurs découvertes sur une évidence scientifique et pour jeter par dessus bord une méthode de raisonnement purement spéculative et susceptible d'erreur. A partir de cet instant, les dentistes ont pu faire la preuve de leurs deductions cliniques par un examen concret et apporter des conclusions beaucoup plus proches des faits.

Les données des recherches scientifiques sont bien précises; toutefois, il est des hommes—pourtant des hommes de science—qui se sont montrés incapables de surmonter les penchants où les portaient leurs convictions personnelles; ces personnages défigurent les faits pour renforcer leur cause ou pour justifier leurs opinions.

Il y a malheureusement de ces individus chez les dentistes et ces hommes ont été entraînés loin des sentiers de la vérité, en poursuivant leurs idées préconçues.

Une de ces erreurs les plus flagrantes touchant la radiologie dentaire tourne au-

*Conférence présentée au Congrès de la Société Dentaire de Montréal, qui eut lieu les 31 mai, 1er et 2 juin 1951.

tour de la présence d'infection osseuse à l'apex des dents. Une autre veut que dans un clin d'oeil nous puissions différencier sur le champ cette infection en la classifiant comme un kyste, un granulome ou un abcès. Cependant, ces concepts sont contraires aux faits, puisqu'il a été démontré, maintes et maintes fois, que l'os périapical est rarement infecté, au sens où nous l'entendons; des recherches sérieuses ont prouvé qu'il était impossible d'identifier à coup sûr, à l'aide d'une radiographie, la présence d'un granulome ou d'un kyste à l'apex d'une dent. La région raréfiée qu'on y aperçoit peut-être aussi bien l'un que l'autre. De plus, des chercheurs compétents et bien intentionnés nous ont certifié que les kystes et les granulomes sont la plupart du temps stériles.

Il est enfin, un autre concept erroné qui veut que la lecture d'une seule pellicule intra-orale ou de quelques-unes prises au hasard, soit suffisante pour nous permettre de poser un diagnostic. Cette attitude est des plus funestes et ne peut qu'accumuler des erreurs, dont souffrent nos patients.

Aujourd'hui, cette communication nous rapportera au tout premier temps de la radiologie et ces considérations nous aideront à limiter notre étude à l'interprétation des radiographies en vue d'un meilleur diagnostic.

Le premier dentiste à se servir d'appareil de Rayon-X en Amérique fut le docteur Kells, à l'époque héroïque de la dentisterie. Dans ce temps, le docteur Kells prétendait que les Rayons-X étaient indispensables pour mener à bien une pratique dentaire. Plus tard, Raper parut en scène et nous connaissons tous son insistance à dire qu'il fallait se servir de Rayons-X chaque fois qu'un patient faisait examiner ses dents. Dans l'ordre chronologique, Simpson fut le premier à établir la valeur incalculable de la radiographie pour fixer les rapports de la carie avec la pulpe. De plus, il nous dit que les constatations radiologiques constituent le guide le plus précieux pour étudier les effets de l'infection sur les cellules osseuses dans les cas chroniques. Plus près de nous, Ennis et Stafne ont mis

en cause la responsabilité du dentiste, qui veut faire un examen convenable de la cavité buccale de son patient; ils appuient sur la nécessité indispensable de l'examen radiologique complet. Enfin, Stafne développe son idée en disant que la radiologie est le moyen le plus précieux pour poser un diagnostic buccal.

Cette rétrospective d'opinions, qu'on ne peut qualifier de quelconques, établit l'importance d'un examen radiologique complet pour en arriver à un diagnostic sérieux. Qu'est-ce que le diagnostic? La définition la plus simple nous répond: "C'est la découverte et l'identification des maladies." Nul ne contestera ici la valeur des Rayons-X en tant que moyen pour nous aider dans la découverte des pathologies. Mais là ne se borne pas le rôle de la radiologie. Approfondir l'étiologie d'une affection est d'importance capitale; nous l'admettons tous, en médecine autant qu'en dentisterie. Toutefois, il nous faut reconnaître qu'en médecine — excepté peut-être dans les domaines chirurgical et prophylactique — la thérapeutique constitue l'apport le plus précieux du médecin. Le malade souhaite que l'homme de l'art trouve la cause ou le genre de sa maladie. Quand le médecin a fait ce dépistage, l'ordonnance ou le régime entre en scène; enfin, l'organisme du malade fait le reste; le corps se guérit lui-même. En dentisterie, ce n'est pas la même chose. Il est vrai que le dentiste, comme le médecin, doit déceler et traiter les affections de chacun de ses patients, mais, de plus, le dentiste est tenu de réparer, de restaurer le dommage exercé dans les tissus.

Ces restaurations ne doivent pas être faites à peu près; d'abord parce qu'il faut bien traiter nos patients et qu'ensuite il faut se rappeler que la restauration subsistera au-delà de la phase du traitement et contribuera au bien-être de nos patients dans les années qui suivront. Ces considérations illustrent l'importance du pronostic aussi bien que du diagnostic; malheureusement, dans le passé, on n'a pas porté assez d'attention à ce point. Cette façon d'envisager nos fonctions donne du poids à la prévention dentaire en prévoyant son rôle dans la

période qui suit celle des traitements. Ce concept change notre interprétation de la dentisterie préventive, qui était confinée jusqu'à maintenant à la réduction des carie et au maintien de la physiologie des tissus périodentaires. L'organisation de nos traitements, pour être logique, doit envisager l'avenir de l'appareil dentaire du patient. Nos reconstitutions doivent être exécutées de telle sorte qu'elles ne seront pas même des sources possibles d'ennuis, plus tard. Telle doit être l'attitude du dentiste en face de ses devoirs professionnels. Cette politique, il va de soi, confère à la radiologie une qualité d'instrument indispensable non seulement pour le diagnostic, mais aussi pour le pronostic.

La radiologie, telle qu'utilisée aujourd'hui, donne-t-elle les résultats qu'on est en droit d'attendre de cette science? Il nous faut admettre que les manufacturiers d'appareils et de matériel radiologiques ont fait leur part. Il y a cinquante ans, on se servait de tube à gaz et de plaques de verre; aujourd'hui, le dentiste a à sa disposition des appareillages, des pellicules et réacteurs chimiques qui satisfont ses désirs les plus exigeants. La General Electric, la Compagnie Ritter, les firmes Eastman, Agfa, Gaevent et Dupont ont droit à notre reconnaissance pour avoir mis au point un équipement des plus perfectionnés pour la production de radiographies de haut calibre. Plusieurs dentistes ont collaboré à l'avancement de cette science et il nous faut nommer des noms comme Kells, Raper, Simpson, Ennis, McCormack, Main, etc., qui ont élaboré des techniques qui nous permettent d'obtenir des films de qualité. Et ces films perfectionnés nous aident d'une façon inappréciable à poser des diagnostics plus surs.

Il n'est pas tout de posséder des films impeccables; il faut les interpréter. Et c'est là la pierre d'achoppement du dentiste. La compréhension des radiographies n'a pas marché de pair avec son progrès technique, chimique ou mécanique. Nous sommes loin en arrière. Il y a encore trop de nos confrères qui ne recherchent que les abcès; cette façon de procéder est primitive et par trop simpliste; elle n'est pas ce que nous appelons une

interprétation radiologique. Nous nous servons encore des films uniquement pour réparer les dents au lieu de les utiliser pour le pronostic, en vue de l'avenir. Comme nous l'avons vu, la période consécutive aux traitements a son importance.

Depuis longtemps, les professeurs essaient d'appliquer dans le domaine clinique, les données des sciences fondamentales. Plusieurs praticiens se sont opposés à cette façon de faire et l'ont jugée inutile. Mais leur attitude les a menés à une faillite totale. Trop souvent nous sommes portés à rechercher des kystes, des granulomes, des abcès; rien d'autre semble nous intéresser. On s'efforce encore de différencier les diverses manifestations pathologiques. Cette recherche est vaine et donne des renseignements qui valent peu quand il s'agit de traitement. Trouvons plutôt les manifestations des tissus vivants aux stimuli fonctionnels, comme aux irritations disfonctionnelles.

Il va de soi que cette conception engendrera un aspect nouveau dans l'interprétation des radiographies. Il faudra mettre de côté les méthodes consacrées au diagnostic différentiel en utilisant les radiographies pour identifier les divers aspects pathologiques. Ce nouvel abord supposera une formation scientifique plus poussée, mais donnera des renseignements plus exacts pour établir un diagnostic plus précis. Les renseignements ainsi recueillis nous permettront de prévoir d'une façon plus scientifique, le rendement de nos restaurations et leur rôle dans le maintien de la santé dentaire de nos patients.

En un mot, un examen approfondi et complet de l'état buccal de nos patients, en prévision de l'avenir, nous donnera plus de travail, parce que nous aurons fouillé d'avantage; de plus, il nous aidera à formuler un plan bien défini pour nos restaurations. Cet avantage est des plus importants puisqu'il veut dire, à la fin, des résultats plus surs et l'absence de récriminations, qui accompagnent toujours les insuccès et même les demi-succès. Cette réussite plus grande nous crée des amis, des amis dentaires, et nous vaut une pratique plus intéressante et plus consolante.

Néoplasmes après extraction dentaire?

par le Dr P. DESAIVE, Professeur à l'Université de Liège,
et le Dr H. BRABANT, Agrégé de l'enseignement supérieur à Liège.

La curieuse observation présentée récemment par Gosselin⁽¹⁾ a ramené notre attention sur deux cas que nous avons eu l'occasion de rencontrer au cours de ces dernières années. L'évolution en fut extrêmement déconcertante et ils se terminèrent, hélas, tous deux par la mort du patient. Nous avons pensé qu'il n'était pas sans intérêt de vous les rapporter, non seulement à cause de leur rareté, mais aussi à cause de certaines considérations qu'ils suggèrent à propos du diagnostic précoce des cancers de la bouche.

Voici la première de ces observations:

M. G..., 40 ans, instituteur, se présente à notre consultation, envoyé par un dermatologiste bien connu de nous pour sa compétence. Ce confrère nous demande s'il ne peut exister une cause dentaire à l'ulcération linguale présentée depuis longtemps par ce patient.

Un interrogatoire approfondi ne nous apprend rien d'intéressant sur le passé pathologique du malade ou de ses ascendants. Hormis son ulcération linguale et une tenace obsession du cancer, le malade affirme se porter à merveille. A l'examen buccal, nous constatons d'abord que le patient a une denture parfaite et très bien entretenue, un articulé normal et aucune trace de gingivite, de stomatite ou de pyorrhée. Une seule petite obturation à l'amalgame existe sur d6.

Au bord de la langue, en regard de la dent de sagesse inférieure droite, siège une ulcération plus ou moins ronde, d'un peu moins d'un centimètre de diamètre, non saignante, à fond grisâtre, peu sensible, à bords à peine saillants et non décollés. La langue n'est pas indurée. Il n'y a pas d'adénopathie.

Le malade nous apprend que cette ulcération dure depuis environ *huit ans*, que le début en a été insidieux, qu'elle n'est jamais très douloureuse, sauf à de courtes périodes d'exacerbation où elle provoque en même temps une certaine gêne à la déglutition. Le patient nous dit encore que l'ulcération a été cautérisée plusieurs fois et notamment avec de la neige carbonique, mais sans résultat. Une biopsie a été faite et le résultat en fut négatif.

Après examens répétés de ce cas et après diverses analyses de laboratoire et un examen médical complet, nous éliminons successivement l'ulcération tuberculeuse, syphilitique, avitaminosique, allergique, trophique ou symptomatique d'une affection générale.

Cependant il existe dans la littérature stomatologique quelques relations de cas d'ulcérations buccales au voisinage de la dent de sagesse, ulcérations persistant longtemps sans cause déterminée. Nous pensons donc, en fin de compte, que la dent de sagesse d'aspect normal, mais très légèrement inclinée vers la langue, pourrait être la cause de l'ulcération. N'a-t-on pas décrit des cas de stomatite odontiasique en rapport avec des dents de sagesse ayant apparemment terminé leur évolution? Puisque le patient possède toutes ses dents et que celles-ci sont en parfait état, il nous paraît sans grande importance de le priver d'une dent de sagesse suspecte.

Le malade se déclarant d'accord, l'extraction de d8 est effectuée aisément sous anesthésie loco-régionale.

Nous renvoyons le malade à un mois. Il revient au bout de ce laps de temps et l'examen buccal révèle une plaie d'extraction en bonne voie de guérison et une ulcération linguale un peu modifiée d'aspect. *Le fond en est rouge et les bords un peu plus saillants.* Nous interprétons mal ces phénomènes et nous pensons que l'ulcération est en train de guérir, ce qui nous confirme dans l'idée que la dent de sagesse extraite, quoique ne présentant aucune aspérité, ni rugosité, était bien la cause de l'ulcération. Nous renvoyons donc le patient, toujours obsédé par la crainte du cancer, en le rassurant.

Il se représente cependant environ six semaines plus tard, toujours angoissé et cette fois l'aspect de la langue nous surprend et nous inquiète. L'ulcération linguale s'est étendue modérément mais ses bords sont maintenant augmentés, bourgeonnants et quoique l'ulcération reste assez peu douloureuse, elle saigne très facilement au moindre contact.

D'accord avec le dermatologiste qui nous avait envoyé ce patient, nous pratiquons une

biopsie dont le résultat, hélas, est cette fois nettement positif; *il s'agit d'un épithélioma.*

Le malade est envoyé immédiatement dans un service de cancérologie où il devait mourir quatre mois plus tard de complications consécutives au traitement, complications au sujet desquelles nous n'avons pu obtenir de renseignements détaillés.

Telle est l'histoire particulièrement navrante de ce malade qui, hanté pendant huit ans par la crainte du cancer, à propos d'une ulcération apparemment banale de la langue, finit cependant par en mourir, l'intervention *qui a paru* rompre l'équilibre entre le malade et sa lésion, étant une banale extraction dentaire.

Voici maintenant notre seconde observation:

M. Sch..., 38 ans, présente une bonne denture portant seulement quelques légères obturations. Cependant plusieurs dents manquent et notamment : g8, g7 et g6.

Le patient se présente chez un confrère parce que g5, cariée depuis longtemps, est mobile et montre dans la région apicale, une petite tuméfaction inflammatoire. L'extraction sous anesthésie loco-régionale s'effectue rapidement et facilement. Soulignons, dès à présent, *que ce n'est pas la douleur*, mais la mobilité et l'infection de la prémolaire qui a incité le patient à faire extraire la dent malade.

Trois jours après l'extraction, le patient se représente chez le praticien parce qu'il souffre beaucoup. Les douleurs sont vives, irradiées dans le côté gauche du maxillaire inférieur, plus prononcées la nuit et (d'après le patient) leur maximum est au niveau de la plaie d'extraction. "Je ne savais pas jusqu'ici ce qu'était le mal de dents, déclare spontanément le patient, mais je le sais depuis deux jours." Interrogé, le patient déclare, en effet, n'avoir jamais eu mal aux dents avant l'extraction, sauf légèrement à dent qui a été extraite, et encore depuis quelques jours seulement.

Croyant avoir affaire à une alvéolite, le confrère consulté nettoie l'alvéole, dont l'aspect lui paraît cependant être l'aspect habituel d'une plaie d'extraction, au troisième jour suivant l'intervention. Un pansement d'alvogyl est placé dans l'alvéole et ce pansement est répété tous les deux jours pendant un semaine *sans amener la moindre amélioration*. Cependant la plaie paraît se cicatriser normalement. Une radiographie ne donne aucun renseignement

intéressant. Le praticien très embarrassé nous envoie à ce moment le malade.

L'examen nous révèle une plaie d'extraction normale et presque guérie. *Par contre, un examen attentif, au niveau de l'emplacement de la dent de sagesse (qui a été extraite plusieurs années auparavant et qui depuis n'a jamais donné lieu à une manifestation douloureuse quelconque) nous montre l'existence d'une sorte de minuscule entonnoir au fond duquel une sonde boutonnée semble heurter un petit séquestre.*

Cependant la région n'est pas douloureuse, ni saignante, ni empâtée. Il n'y a pas d'adénopathie. L'interrogatoire ne révèle rien d'intéressant. Le patient a l'air très bien portant. Il est aimable et confiant.

Plusieurs radiographies (format dentaire) ne nous ayant donné aucune image nette, nous nous décidons à faire effectuer, par le service de radio-diagnostic, une grande radiographie de la mâchoire. *Un B. W. exécuté à la même époque donne un résultat négatif.*

La grande radiographie qui ne révèle qu'une petite zone ostéolytique discrète dans l'angle du maxillaire, permet d'écarter le diagnostic d'ostéite (de cause locale ou générale), mais l'image est trop imprécise pour que l'on puisse porter un diagnostic certain. Sans écarter absolument la possibilité d'une actinomycose du maxillaire, on pense à un épithélioma envahissant secondairement l'os. Une biopsie est effectuée. *Le résultat est négatif.*

Comme le malade souffre de plus en plus, on décide de faire un curetage de la lésion et un second examen des tissus. Cette fois le résultat histologique est net : *épithélioma épidermoïde, très corné.*

On place alors un appareil radifère moulé intra-buccal. Malheureusement des phénomènes fébriles se manifestent presque aussitôt, s'accompagnant d'une congestion importante de la muqueuse au niveau de la lésion. Les douleurs augmentent au point de devenir intolérables. La tuméfaction tissulaire devient telle qu'au bout de deux jours l'introduction de l'appareil radifère dans la bouche s'avère impossible. On décide d'irradier la lésion par voie externe, car l'appareil intro-buccal n'a été porté que 20 heures au lieu des 57 heures prévues (correspondant à 18 M. C. D. au total).

L'appareil radiofère moulé extra-buccal est au début bien toléré.

Il comprenait 3 cm de cire; 1, 4 M. C. D. par cm² et devait être porté 186 heures. Hélas,

au bout de quelques jours, le traitement doit être suspendu parce qu'il y a une exacerbation intolérable des douleurs sous l'irradiation et une extension très rapide du cancer.

Il ne rest donc plus que la voie chirurgicale: exérèse de la tumeur et de la moitié gauche du maxillaire inférieur qui est envahi. L'opération ne donne pas les suites espérées et le malade meurt quatre mois après l'extraction qui a attiré l'attention sur le cancer.

A ces deux observations, nous en ajouterons une troisième, beaucoup plus sommaire qui nous a été aimablement communiquée par notre confrère et ami, le Dr Reginster, assistant à l'Institut de Stomatologie de l'Université de Liège. Voici cette observation:

Il s'agit d'un patient d'une soixantaine d'années, cultivateur, extrêmement fruste, ayant une denture mal entretenue; il se présente à la consultation parce que sa gencive saigne fréquemment du côté vestibulaire de d6. Le praticien constate la présence à ce niveau d'un minuscule gonflement de la gencive, ressemblant à un tout petit épulis. Le patient refusant un prélèvement, le praticien doit se contenter, malgré les avis qu'il donne à son patient, de cautériser ce minuscule gonflement, d'aspect, répétons-le, tout à fait banal. Le saignement cesse et le patient ne se représente qu'un an plus tard à la consultation parce que d6, cariée, lui fait mal. Il demande l'avulsion de la dent, ce qui est fait sans difficulté. La minuscule tuméfaction gingivale n'a pas, depuis un an, augmenté sensiblement de volume.

Deux mois plus tard environ, le praticien est rappelé auprès du malade parce que la gencive saigne de nouveau abondamment et le praticien constate que la lésion gingivale, sur ce court laps de temps, s'est énormément développée. De plus, elle fait, cette fois, penser à un cancer. La biopsie confirme d'ailleurs cette présomption. Le malade, très fruste comme nous l'avons dit, se refuse, malgré les conseils énergiques du médecin, à se laisser traiter et meurt, peu après.

Nos deux premières observations ont des points communs:

1. *L'âge des patients*: il s'agit de patients relativement jeunes, 38 et 40 ans, mais ceci ne doit point nous étonner. Les statistiques montrent que ce genre de cancer de la muqueuse buccale peut com-

mencer beaucoup plus tôt qu'on ne le croit généralement. Certains auteurs citent des cas commençant à 35 ou 36 ans. L'un de nous (Desaive), dans une statistique portant sur 273 cas, en compte 228 (soit 83%) entre 50 et 80 ans. Mais il en relève cependant deux entre 20 et 29 ans, un entre 30 et 39 ans et treize entre 40 et 49 ans.

2. *Dans les deux premières observations, une première biopsie a donné un résultat négatif*, ce qui montre, une fois de plus, que dans certains cas à diagnostic difficile, il ne faut pas hésiter à pratiquer une seconde biopsie quand le résultat de la première ne paraît pas concorder avec les constatations cliniques ou quand le diagnostic s'avère particulièrement délicat. Rappelons qu'il existe dans la littérature d'assez nombreuses observations où il y a eu désaccord entre les résultats de l'examen radiographique, histologique et clinique d'une lésion cancéreuse envahissant le maxillaire.

3. *Dans nos trois cas, la lésion initiale avait un aspect banal et a gardé pendant un temps plus ou moins long (très long dans le premier cas, plus difficile à apprécier dans le second, d'un an dans le troisième) une allure torpide.*

4. *Certains cancers buccaux ont un caractère de malignité tel que tout retard dans le diagnostic et le traitement peut être fatal au patient.*

Comment expliquer le fait que l'extraction dentaire a pu marquer un tournant décisif dans l'évolution de la lésion? S'agit-il d'une coïncidence? Cela ne peut être exclu dans aucune de nos observations, ni dans celle de Gosselin. Cependant, il faut avouer que dans la première de nos deux observations, s'il y a coïncidence, elle est étonnante.

Nous avons recherché dans la littérature s'il était fait mention de cas analogues aux nôtres. En dépit de recherches très fouillées, notre butin a été maigre. Nous avons cependant relevé une observation de Thibault⁽³⁾ intitulée: *Ulcérations gingivales multiples consécutives à des extractions* et relative à une femme de 58 ans, sans passé pathologique particulier, qui, à la suite d'extractions dentaires pratiquées deux mois au-

paravant, a présenté dans le voisinage des plaies d'extraction (qui ne se sont pas refermées) trois larges ulcérations grissâtes, un peu bourgeonnantes, sans aucune tendance à la cicatrisation. Il existait une adénite génienne gauche. L'examen histologique "semblait" indiquer, dit l'auteur, qu'il s'agissait d'un épithélioma. Au cours de la discussion qui a suivi la présentation de ce cas à la Société de Stomatologie de Paris la possibilité d'une lésion avitaminosique ou endocrinienne (?) a été envisagée sans qu'aucune conclusion ferme ait été tirée.

Insistons en tout cas sur le fait, fréquemment observé par les cancérologues et notamment par l'un de nous (Desaive), *que les cancers de la cavité buccale sont souvent soumis à d'étonnantes variations évolutives*. Certains évoluent d'emblée très lentement et s'en tiennent à ce type; d'autres évoluent à grande vitesse, sans que l'on en sache la raison; d'autres enfin, après une période de stagnation, s'excitent brusquement (parfois par exemple à l'occasion d'un premier traitement insuffisant).

Peut-être une explication pourrait-elle être avancée dans nos deux observations et peut-être aussi dans celle de Gosselin, à savoir que l'extraction de la dent voisine du cancer modifie l'équilibre circulaire local, qui passe à la faveur de

l'extraction dentaire par une phase congestive, suivie des manifestations inflammatoires classiques de la guérison et de la régénération tissulaires, ces manifestations devenant temporairement favorables à l'extension du cancer.

De plus, dans certains cas, l'extraction de la dent proche du cancer mettrait à la disposition de ce dernier un terrain d'expansion en état de moindre défense (cette explication est peut-être valable pour le cas de THIBAUT résumé plus haut).

Enfin, il est possible que l'extraction dentaire, par les manœuvres traumatisantes qu'elle exige parfois, facilite le déplacement des cellules néoplasiques à l'intérieur des lymphatiques péri-tumoraux?

Certains stomatologistes insistent aussi sur le fait que l'extraction dentaire (et même la biopsie), en traumatisant la muqueuse, libèrent des substances susceptibles d'avoir un effet stimulant sur les tissus de réparation et, indirectement, sur le développement du cancer.

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avril 1951, pp. 88-93.

Nouvelles de l'Association

Tarifs de chemin de fer réduits pour le Congrès National

L'Association Canadienne des Passagers a autorisé des tarifs spéciaux pour les membres de l'A.D.C. et leur famille, qui se rendront au Congrès National, à Ottawa. On se procure des certificats d'identification, permettant l'achat des billets de chemin de fer à prix fort réduits, au secrétariat de l'Association Dentaire Canadienne, 234 rue St-George, Toronto.

Les billets "aller et retour" seront vendus aux dates suivantes:
pour la Colombie

Canadienne du 12 au 18 sept. incl.
pour l'Alberta du 13 au 19 sept. incl.
pour la
Saskatchewan du 14 au 20 sept. incl.
pour le Manitoba
et l'Ontario du 14 au 20 sept. incl.
(à l'ouest de Fort William et Armstrong)
pour l'est du Canada (i.e. Fort William, Armstrong, Ontario et les endroits plus à l'est)
..... du 15 au 21 sept. incl.
(excepté Terre-Neuve, où les dates autorisées de départs seront du 12 au 18 sept. incl.)

Les billets "aller et retour" seront vendus au taux d'une fois et demie le coût d'un billet de première classe d'adulte "aller," ou d'un billet de wagon ordi-

naire, avec une charge additionnelle de 25 sous, en remettant le certificat d'identification au vendeur de billets.

Les billets vendus alors peuvent être utilisés pour le retour durant un mois après la date du début du voyage.

Certificat d'enregistrement des Congrès annuels

Les certificats d'enregistrement, permettant certaines déductions de l'Impôt sur le Revenu ont été mis à la poste pour ceux qui se sont enrégistrés. Il est donc indispensable que ceux qui désirent avoir un certificat du genre, s'enregistrent à leur arrivée, car on ne peut donner de certificat à des membres, qui ne l'ont pas fait.

Xle Congrès Dentaire International

Cette réunion, qui aura lieu à Londres, du 19 au 26 juillet 1952, suscite beaucoup d'intérêt; elle aura lieu au Royal Festival Hall, de Londres. On prévoit que des dentistes de tous les pays du monde seront présents. A cause des difficultés de transport, il est à conseiller à ceux qui se proposent de s'y rendre, de faire leurs réservations le plus tôt possible.

Des formules d'inscription, des renseignements détaillés et des suggestions tant qu'au voyage peuvent être obtenus en écrivant au Secrétaire, A.D.C., 234 rue St-George, Toronto.

Le budget fédéral pour 1951

La loi de l'impôt sur le revenu a été amendée lors de la présentation du budget par le Ministre des Finances, le 10 avril dernier. L'amendement, qui intéresse les dentistes à salaire, se lit comme suit:

"Que, dans le but de compiler les revenus provenant d'une occupation ou d'un emploi, en 1951 et au cours des années suivantes, certains items peuvent être déduits, à savoir:

- a) les dépenses de voyage qu'un officiel ou qu'un employé a dû effectuer d'après son contrat d'embauchage;

- b) les cotisations à des organisations professionnelles qu'un officiel ou qu'un employé est tenu de payer, d'après son contrat d'embauchage, pour maintenir son statut professionnel;
- c) le loyer d'un bureau ou le salaire à un assistant ou un remplaçant, d'après son contrat d'embauchage, payé par un officiel ou un employé;
- d) des marchandises utilisées directement dans l'accomplissement de son travail et que l'officiel ou l'employé a dû payer d'après son contrat d'embauchage;
- e) les cotisations aux unions.

Service de bibliothèque

"On a annoncé, en novembre dernier, l'établissement d'une bibliothèque aux quartiers-généraux de l'A.D.C. Depuis cette date, la bibliothèque a reçu de l'aide de toute part. L'Association Dentaire Américaine nous a offert généreusement un grand nombre de volumes qu'elle avait en double. Plusieurs membres de l'Association ont montré leur intérêt en offrant des volumes à la bibliothèque.

Comme il a été dit, les souscriptions faites en faveur du Fonds de Bibliothèque peuvent être déduites pour l'Impôt sur le Revenu. A date, nous avons reçu plusieurs centaines de dollars de nos membres. Cet argent servira à l'achat de livres neufs.

Une liste des volumes sera à la disposition des membres de l'A.D.C. bientôt. La bibliothèque est ouverte, tous les jours, de 9 hrs a.m. à 5 hrs p.m., le samedi et le dimanche exceptés."

T. HOWARD GRAHAM, D.D.S.,
Bibliothécaire honoraire.

Les recherches de Brantford sur les fluorures

Les tableaux, qui suivent, sont tirés d'un rapport intérimaire sur l'addition de fluorure à l'eau de Brantford, rapport qui paraissait dans la livraison de mars 1951 du *Canadian Journal of Public*

Health. Dans ce rapport, on appuie sur le fait qu'il s'agit uniquement de statistiques locales: "... en 1948 le Ministère de la Santé Nationale et du Bien-Etre Social s'intéressa aux expériences de Brantford sur les fluorures. En con-

séquence, le Dr H. K. Brown, chef du Service dentaire, entreprit une étude de longue haleine sur l'état dentaire des habitants de Stratford, Sarnia et Brantford; avec le temps, ces recherches devraient donner des résultats concluants."

Statistiques compilées sur les expériences de Brantford

TABLEAU NO 1

Examens combinés des enfants des écoles de Brantford
(résidents constants seulement) 1944 et 1945
examens faits avant l'addition de fluorures

Age	Nombre d'enfants	Nombre d'enfants ayant C.M.O. *	Nombre de C.M.O.		Total	C.M.O. par enfant
			Permanentes	Temporaires		
5	318	261	33	1793	1826	5.74
6	556	489	223	3692	3915	7.04
7	616	573	1023	4177	5200	8.44
8	614	579	1499	3931	5430	8.84
9	608	595	1936	3403	5339	8.78
10	565	546	2148	2119	4267	7.55
11	604	585	2829	1054	3883	6.42
12	658	648	4151	416	4567	6.94
13	531	514	4132	107	4239	7.98
14	307	305	2639	24	2663	8.67
15 et 16	105	103	1044	4	1048	9.98
Total	5482	5198	21657	20720	42377	7.73
Total 12-14	1496	1467	10922	547	11469	7.66

*C.M.O.: C.—dents cariées; M.—dents manquantes, qui ont été extraites; O.—dents obturées.

Le premier examen fait après l'addition de fluorure a été fait à l'automne de 1946, dix-sept mois après le début de la consommation d'eau additionnée de fluorure. Les données paraissent dans le tableau no 2.

TABLEAU NO 2

Premier examen des enfants des écoles de Brantford, en 1946, après l'addition de fluorure

Age	Nombre d'enfants	Nombre d'enfants ayant C.M.O.	Nombre de C.M.O.		Total	C.M.O. par enfant
			Permanentes	Temporaires		
5	360	259	23	1482	1505	4.18
6	342	279	170	1961	2131	6.23
7	290	276	532	1856	2398	8.26
8	278	271	766	1812	2578	9.27
9	283	278	981	1603	2584	9.13
10	301	297	1276	1234	2510	8.33
11	274	273	1348	628	1976	7.21
12	258	255	1631	215	1846	7.17
13	236	234	1873	71	1944	8.23
14	117	117	1108	20	1128	9.64
15 et 16	48	48	466	—	466	9.70
Total	2787	2587	10174	10892	21066	7.55
Total 12-14	611	606	4612	306	4918	8.04

Le deuxième et les autres examens après l'addition de fluorure ont été faits à des intervalles de douze mois. Ces examens ont été faits par le même dentiste, de la même manière.

Les tableaux indiquent l'état des dents des enfants nés et qui ont grandi à Brantford. Les dents permanentes et les dents temporaires sont classées séparément.

TABLEAU NO 3

Deuxième examen fait sur les enfants des écoles de Brantford, 1917, avant l'addition de fluorure

Age	Nombre d'enfants	Nombre d'enfants ayant C.M.O.	Nombre de C.M.O.		Total	C.M.O. par enfant
			Permanentes	Temporaires		
5	302	210	8	1241	1249	4.13
6	347	267	90	1700	1790	5.16
7	332	298	333	2039	2372	7.14
8	263	255	609	1081	2293	8.72
9	262	251	731	1429	2163	8.25
10	280	272	1014	1055	2099	7.46
11	292	286	1376	572	1981	6.67
12	264	260	1645	221	1766	6.69
13	299	231	1677	56	1733	7.25
14	122	121	1034	14	1048	8.59
15 et 16	48	46	458	1	459	9.56
Total	2751	2497	8908	10012	18920	6.87
Total 12-14	625	612	4256	291	4547	7.27

TABLEAU NO 4

Troisième examen fait sur les enfants des écoles de Brantford, 1918, avant l'addition de fluorure

Age	Nombre d'enfants	Nombre d'enfants ayant C.M.O.	Nombre de C.M.O.		Total	C.M.O. par enfant
			Permanentes	Temporaires		
5	370	227	7	1102	1109	2.97
6	399	311	100	1885	1985	4.97
7	350	297	260	1805	2065	5.61
8	323	295	538	1918	2456	7.60
9	258	247	696	1325	2021	7.83
10	237	229	769	856	1625	6.85
11	268	256	1105	519	1625	6.03
12	286	280	1600	199	1799	6.29
13	227	224	1475	112	1587	6.99
14	103	99	686	23	709	6.88
15 et 16	42	41	350	2	352	8.38
Total	2863	2507	7587	9746	17333	6.05
Total 12-14	616	603	3761	334	4095	6.64

TABLEAU NO 5

Quatrième examen fait sur les enfants des écoles de Brantford, 1919, avant l'addition de fluorure

Age	Nombre d'enfants	Nombre d'enfants ayant C.M.O.	Nombre de C.M.O.		Total	C.M.O. par enfant
			Permanentes	Temporaires		
5	290	179	16	901	917	3.16
6	411	277	59	1467	1526	3.72
7	382	328	286	1940	2226	5.83
8	327	293	449	1724	2173	6.61
9	313	294	683	1595	2278	7.28
10	250	239	789	971	1760	7.04
11	238	225	890	452	1342	5.64
12	255	246	1276	199	1475	5.76
13	263	255	1699	74	1773	6.74
14	104	100	728	24	752	7.23
15 et 16	37	36	297	6	303	8.19
Total	2870	2472	7172	9353	16525	5.75
Total 12-14	622	601	3703	297	4000	6.43

Le tableau no 7 résume les changements, qui se sont opérés dans les caries des dents des enfants des écoles de Brantford, sur une période de cinq ans, après que l'eau de l'aqueduc eut été additionnée de fluorure.

Le tableau no 8 donne le nombre et le pourcentage des enfants aux dents parfaites de 1945 à 1950.

Ces tableaux présument de la valeur des eaux additionnées de fluorure dans la prévention des caries dentaires. Ces données sont compilées dans un rapport intérimaire pour rendre hommage aux habitants de Brantford, qui ont droit de connaître les résultats des expériences auxquelles ils se sont généreusement soumis.

TABLEAU NO 6

Cinquième examen fait sur les enfants des écoles de Brantford, 1950, avant l'addition de fluorure

Age	Nombre d'enfants	Nombre d'enfants ayant C.M.O.	Nombre de C.M.O.		Total	C.M.O. par enfant
			Permanentes	Temporaires		
5	310	168	3	809	812	2.62
6	334	233	20	1303	1323	3.96
7	390	305	197	1592	1789	4.58
8	368	328	482	1948	2430	6.60
9	313	285	570	1482	2052	6.51
10	295	275	775	1041	1816	6.14
11	243	237	854	530	1384	5.69
12	220	202	943	154	1097	4.98
13	241	236	1343	75	1418	5.88
14	119	118	893	9	902	7.57
15 et 16	39	37	284	6	290	7.44
Total	2873	2424	6364	8949	15313	5.32
Total 12-14	580	556	3179	238	3117	5.89

TABLEAU NO 7

Changements opérés dans les caries des dents des enfants des écoles de Brantford de 1944-1950

Age	Avant l'addition de fluorure	Après l'addition de fluorure					% Réduction
5	5.74	4.18	4.13	2.97	3.16	2.62	54%
6	7.04	6.23	5.16	4.97	3.72	3.96	43%
7	8.44	8.26	7.14	5.61	5.83	4.58	45%
8	8.84	9.27	8.72	7.60	6.61	6.60	20%
9	8.78	9.13	8.25	7.83	7.28	6.51	26%
10	7.55	8.33	7.46	6.85	7.04	6.14	18%
11	6.42	7.21	6.67	6.06	5.64	5.69	11%
12	6.94	7.17	6.69	6.29	5.76	4.98	28%
13	7.98	8.23	7.25	6.99	6.74	5.88	26%
14	8.67	9.64	8.59	6.88	7.23	7.57	12%
15 et 16	9.98	9.70	9.56	8.38	8.19	7.44	25%
Total	7.73	7.55	6.87	6.05	5.75	5.32	31%

TABLEAU NO 8

Pourcentage annuel des enfants des écoles de Brantford aux dents parfaites, 1944-1950

	Année	Nombre d'élèves	Ayant des dents parfaites	
	avant l'addition de fluorure 1944 et 1945	5482	284	5.18
	après l'addition de fluorure			
	1946	2787	200	7.17
	1947	2751	254	9.23
	1948	2863	356	12.44
	1949	2870	398	13.86
	1950	2873	449	15.63





PAGES EDITORIALES

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Répression de la pratique illégale

Depuis quelques années—depuis toujours pourrions-nous dire—le Collège des Chirurgiens-Dentistes de la province de Québec, s'évertue, par une législation de plus en plus sévère, d'abolir l'exercice illégal de la profession dentaire. Nos gouverneurs ont scruté tous les aspects du problème et ont élaboré une législation destinée à conserver au dentiste ses prérogatives professionnelles. Tour à tour, les lois pénales destinées aux fauteurs de l'ordre ont été rendues plus sévères; les limites des activités des techniciens ont été fixées; les membres de la profession dentaire ont été soumis à des exigences tant qu'à leurs relations avec les techniciens; l'élaboration des preuves d'exercice illégal a été facilitée; des campagnes de propagande et d'éducation du public ont été entreprises; enfin, on a mis tout en oeuvre pour restreindre—sinon abolir totalement—toute pratique illégale.

Hélas, les résultats n'ont pas marché de pair avec les espoirs placés sur ces lois et n'ont pas répondu complètement aux désirs de nos dirigeants. Cette question d'illégalité d'exercice n'est pas facile de solution. Elle exige la collaboration des autorités gouvernementales de la province, l'interprétation éclairée des lois par les juges chargés de les appliquer, et la coopération de la profession et du public. Tous ces facteurs échappent directement au contrôle des directeurs de notre Collège et compliquent la situation.

Notre pays n'est pas le seul à lutter avec la répression de la pratique illégale. Aussi bien aux Etats-Unis qu'en Europe, on est en bute à cette complication et personne, à date, a semblé trouver la clef pour élucider totalement le problème.

En France, notamment, on s'acharne à trouver un moyen efficace à l'élimination de cette plaie sociale, qui intéresse surtout la profession dentaire. On

en est même venu à considérer l'établissement de pénalités pour le patient, qui utiliserait les services d'un praticien, qui n'est pas en règle avec son organisme directeur.

La livraison du 5 avril de l'Information Dentaire nous présente une étude légale sur cet aspect de la question et nous avons cru éclairer nos lecteurs en reproduisant "in extenso" le texte de ces considérations:

"Est-il possible de poursuivre, pour complicité d'exercice illégal de l'art dentaire ou de la médecine, un patient qui s'adresse, en connaissance de cause, à une personne qui exerce illégalement l'art dentaire ou la médecine?"

Cette question qui nous a été posée par un Conseil départemental de l'Ordre des Chirugiens-Dentistes ne manque pas d'intérêt. S'il y était répondu affirmativement, les chances de voir disparaître rapidement les illégaux seraient accrues. Si les malades savaient qu'en se faisant soigner par une personne qui n'a pas le droit d'exercer, ils pourraient être traduits devant le Tribunal correctionnel pour complicité du délit d'exercice illégal, ils prendraient toutes précautions pour éviter de tels ennuis en s'assurant que celui auquel ils veulent se confier exerce légalement sa profession: à cet effet, il leur suffirait de consulter le tableau de l'Ordre des Praticiens, tenu à jour par chaque Conseil départemental et déposé à la préfecture et au parquet du Tribunal.

Mais le point de savoir si, juridiquement, on doit répondre par l'affirmative à la question posée est délicat et, à notre connaissance, les clients des illégaux n'ont jamais fait l'objet de poursuites de la part du Parquet.

On poursuit pour complicité le praticien qui favorise l'exercice illégal de son mécanicien ou de son assistant.

On a condamné comme complice tel médecin qui favorisait les pratiques de guérisseurs, radiesthésistes et autres illégaux de la médecine.

La complicité peut se définir comme la participation d'un individu, en connaissance de cause, à un crime ou un délit dont un autre est l'auteur principal. Peut-on soutenir que le client participe au délit commis par celui qui le traite?

Sans doute, sans le client, il n'y aurait pas d'illégaux, tout comme il n'y aurait pas de voleurs s'il n'y avait pas de receleurs.

Mais le Code Pénal, en ses articles 60 et 61, a précisé les conditions et les modes de la complicité et les dispositions du Code Pénal sont d'interprétation stricte.

Il y a d'abord la *complicité par provocation*, provocation accompagnée de *dons, promesses, menaces, abus d'autorité* ou de *pouvoir, machinations* ou *artifices coupables*.

La provocation doit être directe, c'est-à-dire tendre à l'exécution du délit que l'individu a commis effectivement; elle doit être individuelle, c'est-à-dire adressée directement à un individu.

Il semble bien que le malade qui s'adresse à un illégal, en connaissance de cause, puisse être considéré comme complice de ce dernier car il y a de sa part une provocation directe accompagnée de dons ou promesses constitués par le versement d'honoraires.

Dans le cas où il n'y a aucun versement d'argent destiné à rémunérer les services de l'illégal il n'y aurait pas complicité.

—*Il y a encore la complicité par instructions*: les instructions données pour commettre le délit. Ce ne peut être le cas en matière d'exercice illégal, pour celui qui se fait soigner.

—*Il y a la complicité par fourniture de moyens*: ce cas vise le fait de ceux "qui auront procuré des armes, des instruments ou tous autres moyens qui auront servi à l'action, sachant qu'ils devaient y servir."

C'est spécialement le cas du praticien qui met à la disposition de son mécanicien les instruments lui permettant de commettre le délit d'exercice illégal.

Enfin, il y a la *complicité par aide et assistance*. L'article 60, alinéa 3 du Code

Pénal, vise ceux qui auront "avec connaissance, aidé ou assisté l'auteur ou les auteurs de l'action dans les faits qui l'auront préparée ou facilitée, ou dans ceux qui l'auront consommée."

Il est certain que le malade qui se confie à une personne, sachant que celle-ci n'a pas le droit d'exercer la médecine ou l'art dentaire, aide, par son action à la perpétration du délit d'exercice illégal: il pourrait, semble-t-il, être déclaré complice de celui qui lui donne des soins sans en avoir le droit.

En résumé, la complicité exige la réunion de conditions qui peuvent se trouver établies dans certains cas sur la personne se confiant aux soins d'un illégal.

Mais, presque toujours, les malades sont les victimes et non les complices de l'illégal. En tant que victimes, ils peuvent poursuivre celui-ci en restitution des sommes qu'ils lui ont versées et il est difficile de penser qu'ils pourraient eux-mêmes être poursuivis pour complicité.

S. ROUAH, *Avocat à la Cour.*"

Comme on le voit, le problème est assez compliqué et exigerait des lois assez élaborées pour en permettre le règlement. On nous a dit que le Collège des Dentistes de la province de Québec a, dans le passé, amorcé une discussion sur ce sujet avec les autorités du gouvernement provincial. Mais le projet ne fut pas poussé bien loin à la suite des allégations du département du Procureur Général, à savoir que les pénalités destinées au public en général concernaient ce département seul et qu'il n'appartenait pas à un groupe professionnel de lui dicter sa ligne de conduite.

GERARD de MONTIGNY

De "Noir et Blanc" (6 septembre 1950):

Fraise et poissons rouges

Le Service National de Santé, qui correspond à peu près en Angleterre à notre Sécurité Sociale, soulève, comme celle-ci, un certain nombre de critiques, notamment de la part des dentistes qui estiment qu'ils ne sont pas assez payés ("Pour gagner notre vie, disent-ils, il faudrait que nous ne consacrons pas plus de trois minutes pour passer la fraise et faire un plombage . . .")

Plusieurs journaux ayant annoncé que le dernier cri de l'art dentaire consistait à installer, face au client, un aquarium dans lequel évoluent des poissons rouges (il paraît que cela calme les nerfs du patient!), la femme d'un dentiste vient d'adresser à l'un de ces journaux la lettre suivante:

"Avant que le Service National de Santé ne s'abatte sur nous, nous avions aussi des poissons rouges, mais depuis la mise en application de ce système j'ai dû, un soir, pour donner quand même quelque chose à dîner à mon mari, faire frire les malheureux . . ."

Du Populaire de l'Ouest (22/12/50).—Le port de la cravate n'est pas obligatoire chez les dentistes. Un citoyen britannique s'est rendu chez le plus proche représentant de l'art dentaire pour se faire arracher une racine. Ce dernier, soucieux de l'étiquette, refusa de recevoir le client, parce qu'il ne portait pas de cravate.

Une sous-commission régionale du service de Santé s'est réunie pour discuter de cette affaire et a adressé un blâme au dentiste.



Photo by Clifford R. Kopas, Bella Coola, B.C.

**Mount Noostasum, in the Bella Coola Valley,
British Columbia Coast**

"If we sit down at set of sun,
And count the things that we have done,
 And counting find
One self-denying act, one word
That eased the heart of him who heard,
 One glance most kind,
That fell like sunshine where it went,
Then we may count the day well spent."



DR. WILLIAM K. PRENDERGAST
PRESIDENT
ONTARIO DENTAL ASSOCIATION



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No. 7

Newer Concepts In Dental Roentgenology*

by DONALD T. WAGGENER†, D.D.S., Lincoln, Nebraska

FOR many years members of the dental profession have used but one technique to make dental roentgenograms. This technique did not produce accurate roentgenographic images but rather it produced distorted images of the dental structures. It has been termed the "bisection of the angle" technique and since it could be readily performed, was accepted and has been taught in most dental schools. Various modifications of it have evolved, usually resulting in the use of predetermined angles for projection of the beam of roentgen rays in the various areas of the dental arches.

During the past few years many dentists and manufacturers of dental x-ray equipment have realized that certain changes could be made in the basic technical principles of dental roentgenography which would result in the production of roentgenograms exhibiting superior qualities to most of those made in the past. Some dental x-ray machines are now being manufactured which allow some adjustment in the kilovoltage and milliamperage at which they operate. Control of these factors has not always been possible in the past, but now dentists are aided somewhat in control of the density and contrast of the films by being able to vary the kilovoltage and milliamperage¹. As x-ray equipment becomes available which does not put

limitations on the dentist because of adequacy of the equipment, the skilful operator will then be limited only by the technical procedures he selects to use in dental roentgenography.

This paper will discuss the changes which can be made in the usual technique of producing roentgenograms: to increase the accuracy of shadows of the teeth, to minimize diffusion of details, to produce sharper outlines of the dental structures and to reduce the general haziness of the films. First to be considered, however, are some of the principles of the "bisection of the angle" method. Most dental x-ray machines have been in the past and some still are, designed to operate using a focal spot-film distance of about seven or eight inches. This comparatively short distance limits the dentist in overcoming the distortions of the shadows and causes much diffusion of the details and lack of sharpness of outlines of the dental structures. It is necessary to place the film as close to the teeth as possible and then the roentgen rays are directed at an oblique vertical angle to the teeth so that the shadows will not appear longer than the teeth themselves. Thus all films, with the possible exception of the bite-wing and lower molar films, are exposed to roentgen rays which are directed at the teeth at oblique angles. (Fig. 1). The roentgen rays

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†Chairman, Department of Pathology, University of Nebraska.

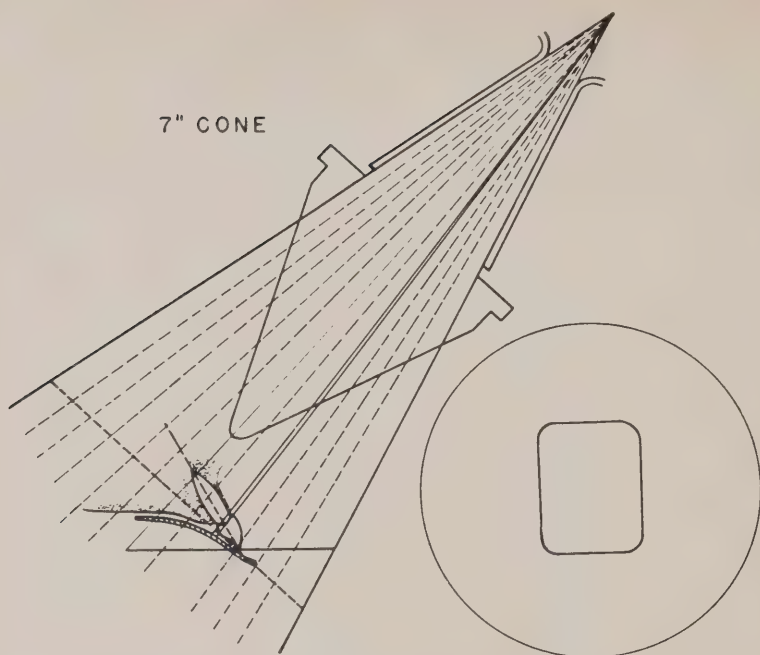


FIG. 1

FIGURE 1. Typical relationship of film to tooth and passage of roentgen rays through teeth in "bisection of the angle" technique. Circle shows relationship of size of beam of primary radiation to size of regular dental film.

pass through the teeth in lines which enter more apically and emerge more coronally. This method obviously must produce distorted shadows of the teeth on the film. (Fig. 2). Roentgenograms are but shadow pictures and shadows can be easily distorted, (Fig. 3b, 3c), and thereby lead to wrong conclusions, particularly by inexperienced dentists and dental students. Dentists, therefore, should give consideration to a technique which overcomes or minimizes the inaccuracies and shortcomings of the "bisection of the angle" procedures. This technique will produce roentgenograms which are among the most valuable of our diagnostic aids.

This later technique has been referred to as the extension cone or right angle technique. As early as 1913 Franklin W. McCormack² used a technique incorporating the right angle principle. He published this procedure in 1920. Later Gordon M. Fitzgerald³

and Donald W. McCormack⁴ modified the procedure so that it could be employed in a dental office using a dental x-ray machine and a dental chair. Several others have used focal spot-film distances greater than eight inches, but without modifying the film position. Now we have available a technique which is entirely practical for any dentist to use in his office. Furthermore, it minimizes the diffusion of details and attains near anatomical accuracy by proper film placement, by proper angulation and by a change in the tooth-film relationship. Let us now consider some of the factors in which this "right angle" technique differs from the "bisection of the angle" technique.

RIGHT ANGLE TECHNIQUE

Roentgen rays emerge from the focal spot of the x-ray tube in paths which are diverging. Images of the teeth produced by these diverging rays, es-

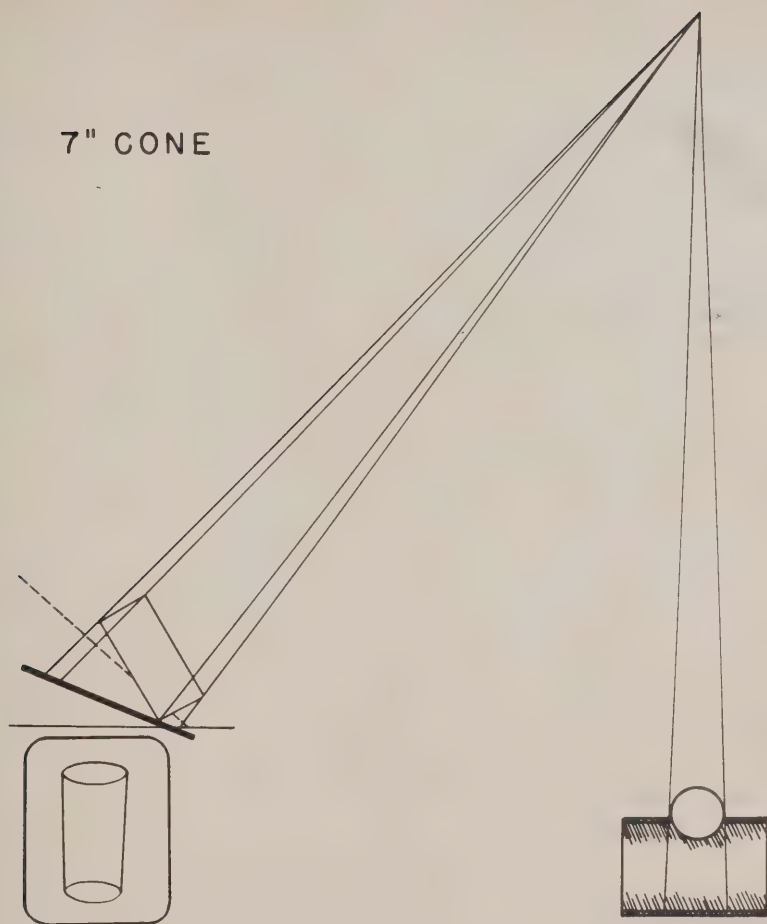


FIG. 2

FIGURE 2. A cylinder is used to illustrate distortion caused by oblique exposure as in the "bisection of the angle technique". Note unproportional enlargement of parts furthest away from film. Right portion of the figure represents end-on view of tooth and film.

pecially in regions where the film is not closely adapted to the teeth, are considerably magnified. The further the film from the teeth, the greater the magnification of the images, unless the paths of the rays are nearly parallel. In the "bisection of the angle" technique the film is closer to the crowns of the teeth than it is to the root portions. This results in unproportional enlargement of the various portions of the teeth which causes the image of the tooth to be distorted. This distortion is in addition to that

produced by the oblique exposures. (Fig. 3a.)

Roentgen rays coming from various points of the focal spot cross one another when passing through any given spot in the dental structures. This tends to cause the image of the tooth on the film to be diffused in outline and lack definition. This is caused by the sharp and definite outline of a root or the zygoma, for instance, being diffused over a small portion of the film as the result of the criss-crossing of the rays as they pass through a given

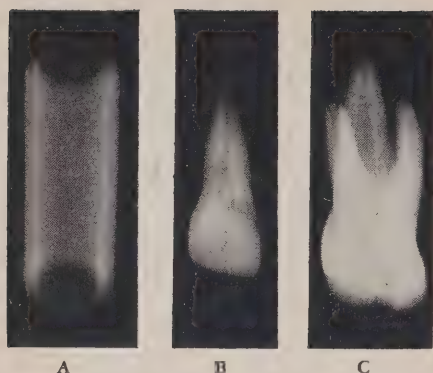


FIG. 3

FIGURE 3. A, B, C. Cylinder, incisor and molar, as seen in oblique exposure as in "bisection of the angle technique". Note unproportional enlargement, distortion and indistinct outline.

than 1.4 millimeters in diameter. Therefore, it is advisable to alter the technical procedure to reduce to a practical minimum, the undesirable qualities of diffusion of details and distortion of images.

The alterations in the usual procedures are one, increase in the focal spot-film distance and two, change in film placement⁸. Twenty inches is the focal spot-film distance beyond which the eye can detect little improvement in the quality of the images produced⁹. When this distance is used the enlargement of the shadows of the teeth and the diffusion of details are minimized. This results when a lead diaphragm with a small aperture is introduced between the focal spot and the film and the focal spot-film distance is in-

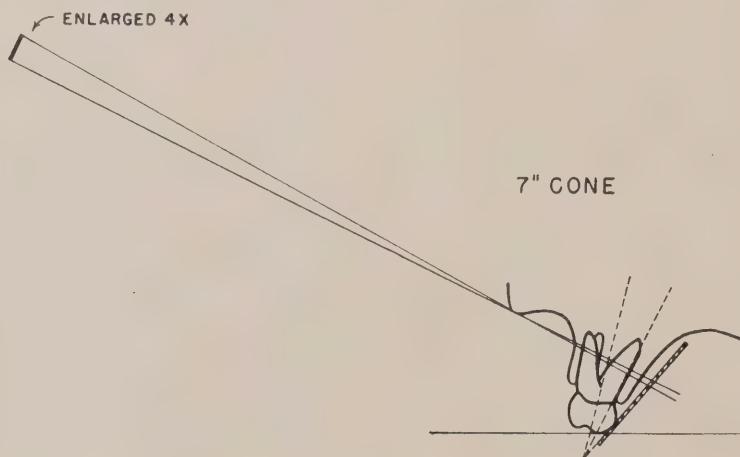


FIG. 4

FIGURE 4. Roentgen rays emerge from all points on the focal spot and criss-cross in passing through the dental structures. This results in indistinctness of details and diffusion of outlines. The larger the focal spot and the closer it is to the object the greater the diffusion of details in the films.

point of these structures, (Fig. 4), instead of the image of the structure being formed in sharp detail. If the focal spot were a point, rather than a spot, then the roentgen rays would all emanate from the same, rather than multiple points, and the outlines of the teeth would all tend to be sharp. It is at present impractical to make x-ray tubes with focal spots much less

creased to twenty inches. Then only the central roentgen rays of the beam of rays emanating from the focal spot are allowed to pass through dental structures and on to the film causing images to be formed. (Fig. 5.) These central rays travel in nearly parallel paths and therefore the images of the teeth are not appreciably enlarged. The diffusion of detail is practically absent

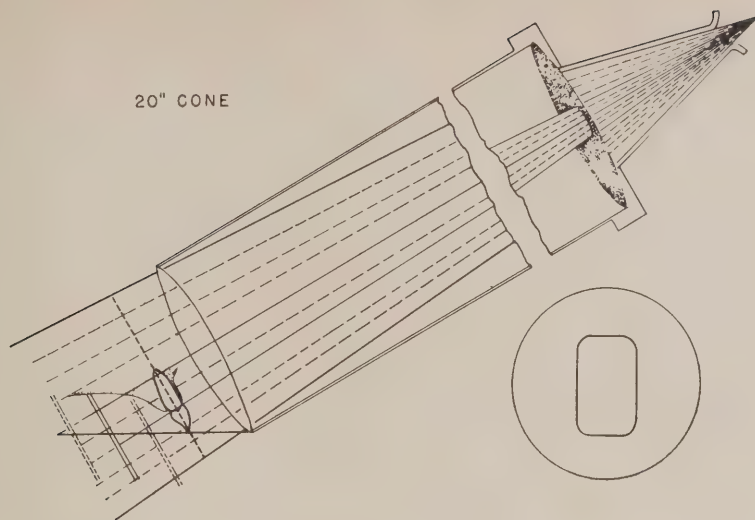


FIG. 5

FIGURE 5. Typical relationship of film to tooth and direction of roentgen rays emerging from x-ray tube and passing through the teeth in "Extension cone right angle technique". Circle shows relationship of size of beam of primary radiation to size of narrow film used in anterior of mouth. Note that size of beam is made smaller by use of lead diaphragm with aperture.

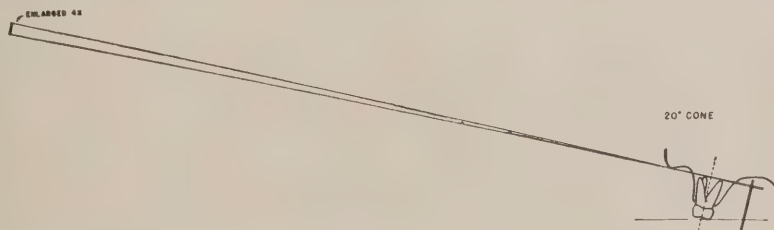


FIG. 6

FIGURE 6. There is less criss-crossing of the paths of the roentgen rays used to produce the roentgenographic image when a greater focal-spot film distance is used because the paths of the roentgen rays are more nearly parallel. This results in more distinctness of details and sharpness of outlines.

not only because of the nearly parallel paths of the rays, but also because the focal spot is in effect nearly a point, rather than a spot, when a twenty-inch focal spot-film distance is used. This results in fewer rays criss-crossing as they pass through the dental structures, thus keeping very sharp the outline of the images formed. (Fig. 6.) The lead diaphragm, in addition to allowing only the central rays to reach the film, stops many of the excess rays which would otherwise strike the patient's face but not the

film. These excess roentgen rays serve no useful purpose. They cause secondary radiation when striking an object, resulting in general haziness over the entire film. But by using only a small beam of radiation this haziness is kept at a minimum. A beam only large enough to affect the film and allow a small margin for human error in directing the beam at the film is used. Thus excessive numbers of roentgen rays do not strike the face and dental structures resulting in unnecessary amounts of secondary irra-

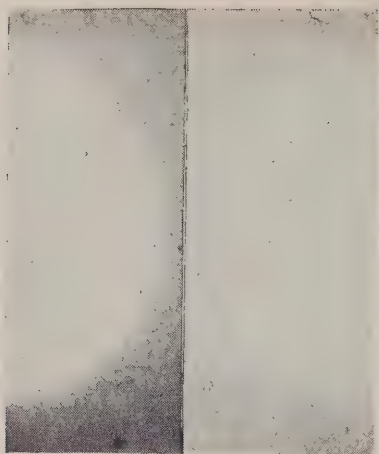


FIG. 7

FIGURE 7. Left half of figure shows effect of secondary radiation on typical "bisection of the angle" exposure using 7 inch focal spot-film distance. Right half shows effect of secondary radiation in typical "extension cone right angle" exposure using 20 inch focal spot-film distance and small beam of primary roentgen rays.

diation which would result in excessive fogging of the films. (Fig. 7.) Secondary irradiation cannot be entirely eliminated, for some is formed by the primary irradiation as used to produce the roentgenographic image even though the beam is small.

All dentists will agree, I'm sure, that bite-wing films are of great diagnostic value because the film is placed parallel with the long axis of the teeth and the exposures are made at a right angle to the teeth and to the film. Certainly, if it is desirable to use such a valuable procedure in producing images of the crowns it is equally desirable for the root portions and the surrounding bony structures. The right angle technique applies the same technical principles to the whole tooth that the bite-wing technique applies to the coronal portions of a tooth⁷. The films are placed parallel with the long axes of the teeth and even though some distance from them, no appreciable enlargement of the images are discernible and sharpness of detail is maintained. After the film is placed paral-

lel with the long axes of the teeth the central beam of roentgen rays is directed at the teeth and the film at a right angle. The films are never bent but are usually reinforced with a metal backing to prevent it. The images created on the film are anatomically correct and are not distorted. (Fig. 8, 9.) It might be said that "periapical bite-wings" are produced. Far less "plus or minus" vertical angulation of the cone is used in this technique as compared with the "bisection of the angle" technique. (Fig. 10.) Anatomical handicaps such as the zygoma can be controlled. The shadow of the zygoma appears very small, if at all, on the upper molar films⁸. (Fig. 11.) It is in this area that the most difficulties are encountered in the "bisection of the angle" technique, thus causing the poorest diagnostic films to be produced. Therefore, it is perhaps in the upper molar regions that this "right angle" technique offers the greatest possibilities in overcoming the anatomical handicaps, thus resulting in films of exceedingly high diagnostic qualities.

When the focal spot-film distance is increased, the exposure time is increased proportionately with the square of the distance between the focal spot and the film. Therefore, it is necessary to use a film with a very fast emulsion. Narrow films available commercially are used in anterior regions of the mouth to facilitate placement and proper positioning. Regular size films are used in the posterior regions.

Various methods have been devised for positioning and holding the film parallel with the long axes of the teeth in the various areas of the mouth⁹. These include cotton rolls, forcep type film holders, and various types of acrylic block film holders.

There can be no doubt that the accurate images of the teeth produced by the extension cone right angle technique have distinct advantages over the distorted images produced by the technique based on the principle of

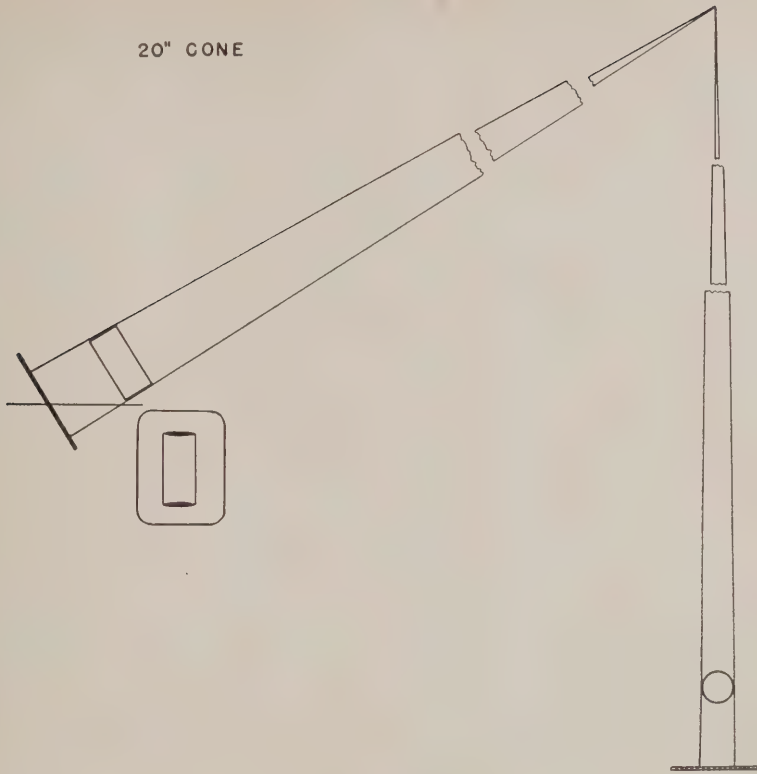


FIG. 8

FIGURE 8. A cylinder is used to illustrate the accuracy of the roentgenographic image produced by the extension cone right angle technique.

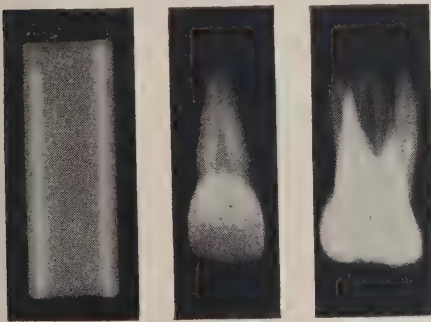


FIG. 9

FIGURE 9. Cylinder, incisor and molar exposed to roentgen rays as in "extension cone right angle technique". Note accuracy of roentgenographic image, sharpness of outline and absence of distortion. The labial and lingual cemento-enamel junctions of the incisor are superimposed and the cusps of the molar are superimposed as in bitewing films.

bisection of the angle formed by the film and teeth. The extension cone right angle procedure is entirely practical to use in any dental office. Several dental schools are now teaching it in place of the "bisection of the angle" technique.

SUMMARY

The usual technical procedures of exposing dental films can be changed so that there is an increase in the anatomical accuracy of the images of the teeth, the diffusion of details is minimized, sharper outlines of the dental structures are obtained, and the general haziness of the films is reduced. These changes are based on the following factors: (1) Increased focal spot-film distance so that the paths of the roentgen rays are prac-



FIG. 10

FIGURE 10. When the film is placed parallel with the long axes of the teeth, rather than obliquely, then right angle exposures can be made. Compare distances between lines on reverse sides of films. These represent differences between the two techniques in sharpness of outline and distinctness of detail.



FIG. 11

FIGURE 11. Note sharpness of outline, distinctness of detail, accuracy of reproduction of images of teeth and control of shadows of molar bone.

tically parallel, then—(2) increased tooth-film distance can be used, so that—(3) the dental films can be placed parallel with the long axes of the teeth and then—(4) the central beam

of radiation is directed at a right angle to the teeth and to the film, resulting in (5) images of the teeth which approach anatomical accuracy and have great sharpness of detail of both tooth and bone.

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800 South Thirteenth Street

Résumé

On peut modifier les techniques habituelles utilisées pour exposer les pellicules dentaires pour obtenir: 1) une amélioration de la reproduction anatomique des dents; 2) une diminution du flou des détails; 3) une précision des contours des structures dentaires; 4) une augmentation générale de la clarté des films.

Ces perfectionnements peuvent être réalisés: 1) en augmentant la distance du foyer entre l'obstacle et le film pour que la direction des rayons soit pratiquement parallèle; 2) en augmentant aussi l'espace entre le film et les dents pour que les

films puissent être placés dans une position parallèle au grand axe des dents; 3) en dirigeant les rayons centraux à un angle droit avec les dents et les films, obtenant ainsi des images qui se rapprochent beaucoup de l'anatomie réelle des dents et qui présentent une grande clarté de détail pour la dent et l'os environnant.

Rotary Tooth Cleaners

by Dr. F. B. COOPER, Moose Jaw, Saskatchewan

SINCE the advent of what may be called the age of modern dentistry, a great deal of attention has been focused on the cleaning of teeth.

Various procedures have been advocated which aimed at giving the best results in the removal of stains and debris from the teeth and at the same time giving stimulation to the supporting tissues.

It is the intention of the author to describe a means of oral prophylaxis for home use, which has been used for several years with excellent results from a cleaning and stimulation viewpoint.

We are fully aware of the fact that the toothbrush has not been the complete answer to oral prophylaxis. At periodic intervals the home cleaning method must be supplemented by a thorough cleaning in the dental office. At this time calculus and stains are removed from the teeth due to the fact that many tooth areas are not cleaned by the toothbrush as the bristles often touch only the more salient areas of the tooth. This is particularly true in the case of crowded and irregular teeth where it will be noted that a crowded tooth is quite stained while

the teeth on either side of it are quite clean. Food particles are able to collect about these teeth with the subsequent formation of stain, calculus and gingival irritation.

The bristle brush, in addition to missing certain tooth areas entirely, often bears more heavily on gingival areas and causes irritation and wearing at the necks of the teeth and also irritation to the gum tissues in these areas.

In the early days of office prophylaxis, bristle wheel brushes were used for prophylactic purposes. This method of cleaning has several disadvantages and was usually a painful operation due to laceration of the gum tissues. This method of cleaning was replaced by that of using a soft rubber cup in place of the bristle wheel.

The rubber cup had obvious advantage in that it did not cause injury to the gums and also that it conformed to the surface of the tooth and was thus able to cleanse areas not previously reached by the bristle wheel.

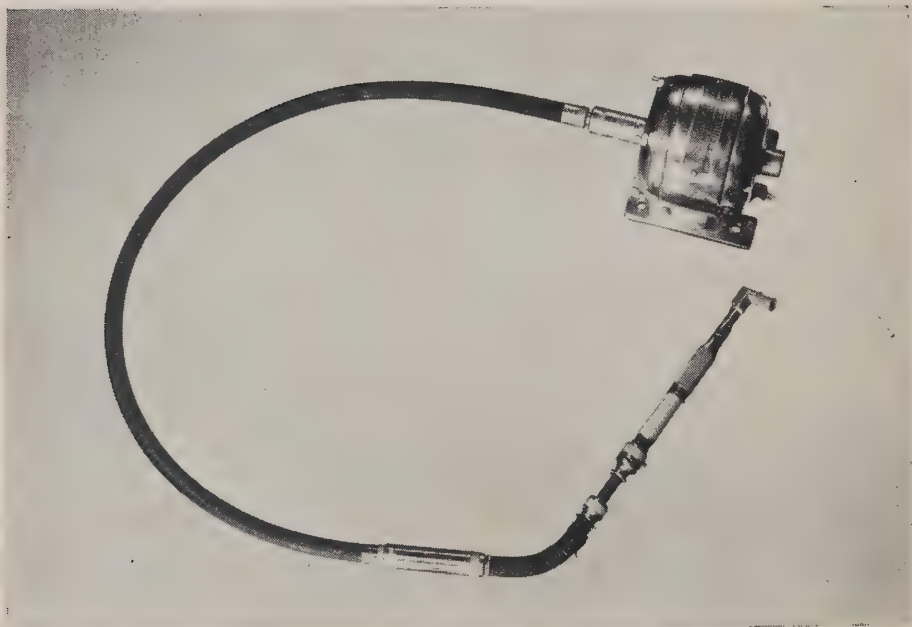
From the superior results obtained from the use of the soft rubber cup in the office it was thought that better prophylactic results could be obtained



MODEL I



MODEL II



MODEL III

by making the office technique available for use in the home. Consequently, five different models of tooth cleaners, based on the rotating cup principle, were devised.

The first model consisted of a dental right angle attached to a syringe. The total length of this model is exactly that of the ordinary toothbrush. In operation, the model is held in an upright position with the right angle uppermost. The plunger of the syringe is pressed rapidly up and down, causing the rubber cup to rotate continuously back and forth in contact with

the teeth. Any commercial dentifrice may be used as the cleansing agent. Due to the rotating finger grip, the cleaning device may be turned in any direction with ease. Excellent prophylactic results were obtained in the use of this model but the device was abandoned in favour of models II and III.

These models, being electrically driven, gave quicker and better cleaning results and more closely approximated the office prophylaxis.

Model II consists of an electric shaver to which a dental right angle

is attached. The device is plugged in in the same manner as an electric shaver and is held in an upright position except for the cleaning of the lingual surfaces of the lower teeth. Here the body of the cleaner is tipped upward to accomplish the cleaning of these surfaces.

Model III consists of a small motor which is attached to a wall, such as a bathroom wall. To this motor is attached a flexible cable, such as is used on a cable foot-engine, together with the right angle. A small foot control is used to regulate the motor to any speed desired. As this model is a permanent wall fixture, it is ready for use at a moment's notice.

Model IV consists of a small, water-driven turbine pipe. This pipe is inserted between the inlet and outlet pipe of the ordinary bathroom wash-bowl and is controlled by a small tap on the turbine pipe to regulate the flow of water and the speed of the turbine.

To this small turbine is attached a flexible cable and dental right angle. Water passing from the inlet pipe through the turbine pipe and into the outlet pipe, causes the flexible cable and rubber cup to rotate.

Model V also consists of a water-driven turbine. It may be firmly attached to the nozzle of any water tap and works in the same manner as Model IV.

The first three devices described have been used for several years with excellent results.

A tabulation of the results noted in their use is as follows:—

1. Better cleaning results were obtained as each tooth was cleaned individually rather than en masse as with the bristle toothbrush.
2. The edge of the rubber cup was able to clean under the free mar-

gin of the gum to remove debris from these areas.

3. Calculus and stains are more easily prevented from forming on the teeth as the surfaces of the teeth are kept smooth and polished.
4. Calculus and stains are more readily removed before they harden on the teeth.
5. No gingival irritation to the teeth was noted.
6. No gum irritation was produced.
7. The flexible rubber cup readily adapted itself to surfaces of crowded teeth.
8. Massaging of the gums can be performed after each cleaning by running the rotating rubber cup over the gums without irritation to them.
9. Tongue prophylaxis can be performed as with a bristle brush.
10. Interproximal rubber points may be used for cleaning between teeth.
11. Cleaning time need not be longer than time consumed in cleaning with toothbrush and the amount of dentifrice used is the same.
12. By the use of these types of cleaners, and consequent better oral prophylaxis, a healthier oral condition has resulted.

From time to time power-driven tooth cleaners have appeared on the market. The most prevalent principle in these devices has been that of attaching a bristle toothbrush to a motor or in the use of a rotating bristle brush.

The author feels that these bristle attachments only aggravate the situation of irritation now existing in the use of the bristle toothbrush and that the use of materials of a softer nature such as the soft rubber cup have a less injurious effect on the oral tissues.

It is late but there is yet time to convince still more patients that the American plan of dentistry offers and delivers skills and services which should not be hazarded and certainly not sacrificed at the altar of political expediency.—J. D. O'Farrell, D.D.S., F.A.C.D.

Relining Acrylic Dentures Without Distortion*

by D. R. CHRISTIE,† M.A., Toronto, Ontario

A NEW approach to the relining of dentures has permitted the making of relines without producing the distortion which frequently attends other methods in current use.

In many instances relines must be carried out by laboratories on an emergency basis. All too often the reline material is cured by subjecting the denture to the temperature of boiling water. In these cases distortion of the denture is serious. Most relines are made by slower polymerization, such as over night, or for 16 hours at a lower temperature, probably about 160°F. Even this treatment will produce enough distortion to affect the fit and the occlusion of the denture and usually some adjustment must be made by the dentist on this account.

The dimensional changes which can occur on relining are easily demonstrated. Any experimental denture can be flaked, after taking a model and an occlusal index from it, subjected to relining conditions and tried on its model and index after treatment. As in the case of other types of repairs, it will be found that distortion has resulted.**

Relining is most commonly confined to lower dentures; upper dentures are usually rebased. The comments in this paper, then, are directed more specifically to the relining of lower dentures. There has been no opportunity, up to the present time, of carrying out practical trials of the relining techniques to be described in this paper, although arrangements may be made in the future. The methods and recommendations presented here are based, then, on laboratory experiments alone.

CAUSES OF DISTORTION

It has been shown¹ that ordinary repairs, such as fractures and the replacement of lost or broken teeth, can be made without causing distortion by using a method where the heat treatment does not exceed 135°F. Relining by this same method was not entirely successful. The reason for this is that, in a reline where a considerable amount of new denture base material is added, the new resin exerts sufficient tension by polymerization shrinkage alone, to distort the original denture base. This is commonly indicated by a contraction across the heels of the denture. In other types of repairs there is sufficient bulk of original denture base to resist any dimensional change.

The effect on dimensions can readily be shown qualitatively by "relining" a strip of denture base material. A fully-cured piece of methyl methacrylate denture base, measuring approximately $\frac{1}{8} \times 1 \times 3$ inches is thoroughly conditioned in water. Four small depressions, two near each end, are countersunk on one side of the specimen and a stone index is made against this surface. New denture base material is then added to the opposite side of the strip as for a reline and cured by any method. The addition of the new material causes a bowing of the whole strip such that the original reference or index surface becomes convex in shape.

This point is illustrated in Figure 1 which is a photograph showing the distortion produced in a flat strip of clear plastic that was "relined" by the addition of a layer of pink denture base material. In the photograph the

*This project was financed in part by a grant from the National Research Council of Canada through the Associate Committee on Dental Research.

†Research Fellow, Ontario Research Foundation, Toronto, Ontario.

**For illustrations see reference 1.

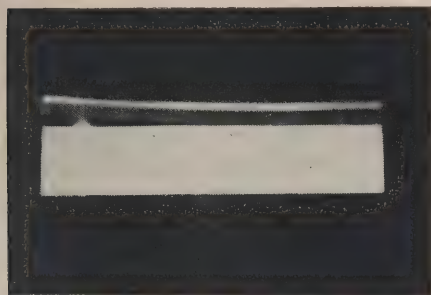


FIGURE 1—Distortion cause by ordinary relining

original strip appears dark and the added resin appears white because of the direction of the illumination. The top surface of the supporting stone index indicates the shape of the strip before relining. The conical projection near the left end of the index corresponds to the depression made in the original strip for the purposes of location; the reflection of another similar reference point is just perceptible through the resin near the right end.

PREVENTION OF DISTORTION

A solution to the problem of relining distortion seemed to be in the production of a reline resin with enough flexibility to prevent the distortion of the original denture base and yet with sufficient hardness to be satisfactory for use in dentures. The so-called resilient resins for special dental applications and somatoprosthetics were considered too soft for relining purposes.

Suitable reline resins can be formed in two ways. First, a polymerization inhibitor can be added to the monomer-polymer mixture so that a low molecular weight polymer with some flexibility is produced on curing. Secondly, a permanently flexible resin can be added to the mixture to provide internal plasticization. (This is not the same as adding a plasticizer as such which can be leached out, in time, with deleterious results.)

The first method requires a stable inhibitor. Hydroquinone, a common anti-oxidant in methyl methacrylate

monomer, cannot be considered stable enough for use in the reline method to be described. Experimental dentures and flat strips were relined using a monomer-polymer mixture containing, as one ingredient, hydroquinone in excess of that normally present in commercial dental grade monomer. Curing was carried out at 135°F for 3½ hours. No distortion was evident immediately after relining, but about two weeks later the reline resin became tinged with yellow, apparently as the hydroquinone oxidized, and distortion proceeded slowly until eventually it became serious.

A more suitable inhibitor has been found in 2,5 ditertiary butyl hydroquinone*. It is considerably more stable than hydroquinone for the purpose of relining. Under the same conditions just described in connection with hydroquinone, 2,5 ditertiary butyl hydroquinone prevented reline distortion in experimental strips and dentures for from 8 to 10 months. Slight distortion was noticed after that time, presumably because the inhibitor finally was oxidized permitting a high molecular weight polymer to form and thus causing further polymerization shrinkage. (This explanation is an assumption only and no attempt has been made to prove it experimentally.) Distortion was eliminated, however, perhaps indefinitely, by curing the experimental dentures and strips for a period of 16 hours rather than for 3½ hours. The method for relines based on these data will be outlined in detail presently.

The second method, internal plasticization, requires a soft, permanently flexible resin. A number of the higher alkyl methacrylates were investigated for their suitability and adaptability to the monomer-polymer or liquid-powder technique of moulding. Octyl methacrylate was selected and used in solution. Since its monomeric form has no solvent action on methyl polymethacrylate dental powders and its

*Product of Tennessee Eastman Corporation, Kingsport, Tenn., U.S.A.

polymeric form is viscous and tacky, octyl methacrylate can not be used entirely as the liquid or powder component in denture base mixtures. It can be used, however, as a 10 per cent solution of its polymer in methyl methacrylate monomer and this solution will keep indefinitely if stabilized with an anti-oxidant (hydroquinone is suitable here) and kept in the dark. On polymerization of a mixture of regular denture base powder and methyl methacrylate monomer containing octyl polymethacrylate, a resin is obtained which, because of adequate flexibility, is suitable for relining.

In order to minimize the effects of thermal distortion on relining, all heating was done at 135°F. At this relatively low temperature polymerization can be accelerated by using a peroxamine system of catalysis. The combination of trihexylamine and benzoyl peroxide was used here. In contrast to the systems employed in direct acrylic fillings, it causes slight acceleration at room temperature and moderate acceleration at 135°F. Ample working time is therefore provided with this system. It has been learned, recently, that trihexylamine is no longer commercially available. Other amines, such as tributylamine and triamylamine, may be substituted, however, and can be readily obtained.

RELINES WITH INHIBITOR

Methyl methacrylate monomer for relines may be prepared by adding three per cent trihexylamine (or other tri-alkylamine) and 0.05 per cent 2,5 ditertiary butyl hydroquinone. Before mixing regular denture base polymer, 0.5 per cent benzoyl peroxide is added to and dissolved in the monomer. Packing of the case is carried out in the usual manner and curing is done at 135°F. for 16 hours or over night. The reline is then complete and the denture is dimensionally stable. No distortion is produced by the method.

Figure 2 shows an experimental denture 14 months after being relined by this method on a plaster cast which

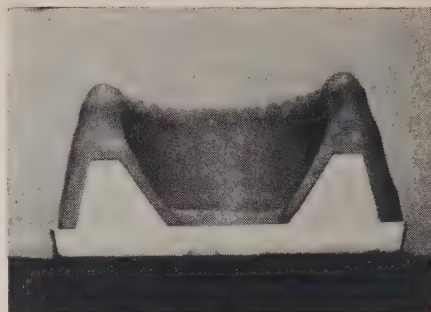


FIGURE 2—Denture relined by inhibitor method, after 14 months

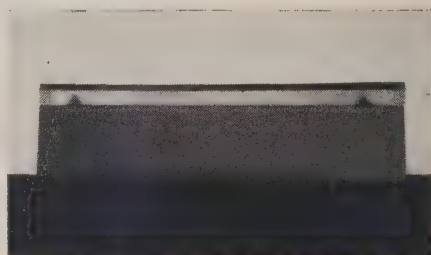


FIGURE 3—Strip relined by inhibitor method

was made from a brass master mould. The cast against which the denture was relined was also taken from the same brass mould. This photograph indicates that no distortion was produced during relining and that none occurred in storage. (In water at 37°C). Figure 3 illustrates the dimensional stability of a "relined" strip. This photograph was taken approximately 15 months after relining. It shows one side of the original clear plastic strip (white—because of the illumination) resting on its stone index. The added pink resin can be seen as a dark layer on top of the original. In contrast to Figure 1, this strip is quite flat, showing no tendency to warp.

RELINES WITH OCTYL METHACRYLATE

The reline monomer in this method contains octyl polymethacrylate. Octyl methacrylate monomer (at present the only commercially available form) is first polymerized by adding a suitable catalyst, such as benzoyl-peroxide, and heating at about 70°C for 24 hours.

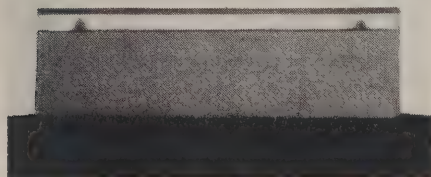


FIGURE 4—Strip with internally plasticized reline material

The reline monomer is then made by adding 3 per cent trihexylamine and 10 per cent octyl polymethacrylate to ordinary dental-grade monomer. Percentages are based on the weight of monomer. This solution is slightly yellow but the colour is masked in use by the pink denture base powder.

Before mixing, 0.5 per cent benzoyl peroxide should be added to the monomer and dissolved. The dough which is formed when the denture base powder is added will be more tacky than usual, but the tackiness will disappear on curing. Polymerization is carried out at 135°F. and the case may be deflasked after 3½ hours. This method therefore provides a fairly rapid cure without producing distortion of the denture.

The success of this method in preventing distortion during relining and storage in water at 37°C. is illustrated in Figures 4 and 5. Figure 4 shows another flat strip of clear plastic "relined" with pink denture base material. After 14 months there is still excellent adaptation of the strip to its index which was made before relining. The denture pictured in Figure 5 was also relined by this method of internal plasticization. It is shown on a plaster cast which was made from the master mould described previously and the excellent adaptation after 15 months is further evidence of the effectiveness of this relining technique.

In view of the recent advances made with catalyst systems such as are used in the direct acrylic filling mate-



FIGURE 5—Denture with internally plasticized reline material, after 15 months

rials, it is conceivable that a room-temperature - setting reline material could be developed which would make use of the advantages of the methods described in this report. It would appear that the polymerization of such a resin would have to be controlled in such a way as to produce a flexible but stable polymer or that permanent plasticization would have to be incorporated.

SUMMARY

The report is a summary of work done at the Ontario Research Foundation on the problem of the distortion of dentures during relining.

It is submitted that, where thermal effects are not a factor, the distortion is caused by the added reline resin warping the original denture base primarily by polymerization shrinkage.

Some degree of flexibility is required in the reline resin to overcome this distortion.

Two low-temperature curing methods are suggested which by the production of flexible polymers eliminate distortion and yet assure dimensional stability.

ACKNOWLEDGMENT

This research was conducted under the general direction of Mr. O. J. Schierholtz of the Ontario Research Foundation. The cooperation and advice of Dean R. G. Ellis, Dr. R. J. Godfrey and Dr. J. R. Fletcher, of the Faculty of Dentistry, University of Toronto, is gratefully acknowledged.

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Periodontics and Diet Control*

by DOROTHEA F. RADUSCH, D.D.S., M.S., Minneapolis, Minnesota

A WELL functioning dental apparatus is desirable for the best comfort and health. Now that more and more people are living longer, there is even greater need for preservation of the teeth and the supporting structures. Prevention and control of periodontal diseases is foremost. One of the significant factors is diet.

How can we expect healthy periodontal tissues, when our patients' diets provide such small amounts of the essential nutrients that the levels of intake are within the danger zones? How can we expect the teeth to be retained in the mouth long enough to warrant placement of beautifully constructed inlays, bridges, and partial dentures, when the diets do not furnish the nutrients required to preserve the supporting tissues? How can we expect our patients' dentures to be comfortable, once we have permitted the bony ridges to be lost, or when the soft tissues are not nourished properly to keep them in a high state of health, to prevent sensitivities and sore spots?

These are the practical aspects of diet and nutrition as related to dental health. It is not the occasional patient with frank vitamin or mineral deficiency with which we deal. It is the one with day by day sub-optimal intakes. These are the patients who do not show characteristic and specifically diagnostic symptoms. For these daily patients we have no easy tests, no dial on the dashboard to indicate that the machine is discharging.

Yet we all know that for maintenance of good results after periodontal treatment, the dietary regime must be good in addition to the mouth hygiene and periodic prophylaxis. We know that healing occurs more readily if the dietary is good, especially as it relates to the water soluble vitamins, ascorbic acid and B-complex vitamins. We know that much of the periodontal disease

can be prevented by dietary practices which keep the tissues in a high state of resistance physiologically and structurally.

Thus it is important to investigate the dietary practices of each patient. Supply is basic. Are the foods eaten which could provide the required nutrients? Only when it is known that these are supplied regularly in sufficient amounts, need one be concerned about utilization or even the variations in content of nutrients.

After studying only a few diet histories, it becomes apparent that people are haphazard in their food intakes. They do not approach consistently, the generally accepted concept of good food habits. Even patients with good income levels are undernourished, in spite of being well-fed calorically.

Unfortunately one can continue for long periods on this type of diet without showing specific signs of ill health. In the stress of modern life, we grab a sandwich and a cup of coffee, and hurry to our tasks, feeling secure because the body does not immediately collapse. It is true that some few individuals can adapt to low levels of intake, but that is not a wise chance to take.

A dentist cannot be expected to give his patients complete instructions in diet, but it is within his province to outline a pattern of diet specifically, and to explain the necessity for co-operation. The patient needs to be told that the body cannot perform its functions without the proper proportions of chemical elements in all its tissues and fluids, and that these substances must be obtained from the diet. Before becoming concerned with the problem of utilization, we should first be sure the nutrients are supplied.

The patient's own evaluation of his diet is often false. He is inclined to over-estimate his consumption of the

*Presented before Toronto Academy of Dentistry, March 1951.

protective foods, both as to quantity and frequency. Not until the patient keeps a written record of his meals and between meal eating, does he realize his true daily consumption of the various items. The diet record is still the best available method of determining food habits. Yet this record is usually better than the average diet. Either subconsciously or consciously, the patient will improve his meals during the period of the record.

Some patients follow unconventional diets, which feature odd dishes and foods which are hard to obtain. It is still possible to consume a proper balance of the essential nutrients in that manner, but unless one has a considerable knowledge of nutrition, it is wiser to follow a dietary pattern made up of customary foods. Such a daily pattern is as follows:

- One 3-4 ounce serving of meat, fish, or poultry
- One and one-half pints of milk (3-8 oz. glasses).
- One egg
- Four to six servings of butter, butter substitute, or cream.

Five servings of fruit and vegetable:

- One citrus fruit or tomato
- One rich yellow fruit or vegetable, or deep green vegetable.
- One of potato
- Two others.

- Four to six serving of cereal foods, one-half of whole grain. (bread, rice, macaroni, breakfast cereal, etc.)
- Desserts, not more than once a day.

By following this pattern one will obtain the proper allowances of the essential nutrients. These are:

	Male sedentary	Female
CALORIES	2400	2000
PROTEIN	70 grams	60 grams
CALCIUM	1 gram	1 gram
IRON	12 milligrams	
VITAMIN A	5000 Int. Units	5000 Int. Units
THIAMINE	1.2 milligrams	1 milligram
RIBOFLAVIN	1.8 milligrams	1.5 milligrams
NIACIN (nicotinic acid)	12 milligrams	12 milligrams
VITAMIN C (ascorbic acid)	75 milligrams	70 milligrams

It is well to review some of the foods which supply these allowances. This will explain why the various categories

have been placed in the dietary pattern.

PROTEIN

The allowance for protein will be furnished as follows:

One serving meat	20 grams
1½ pints milk	24 grams
1 egg	7 grams
1 serving potato	3 grams
4 servings bread or other cereal foods	12 grams
	63 grams

The additional servings of vegetables, fruits, and other foods customarily consumed, will complete the allowance for those who need more than 60 grams.

CALCIUM

Calcium is not readily supplied except by milk or certain kinds of cheese. Cottage cheese is not a rich source. It takes one and one-third cups (½ pound) of dry cottage cheese to equal the calcium in one cup of milk. Now, how many of you would consume such a large quantity of cottage cheese? Without at least one pint of milk, and preferably one and one-half pints daily, it is most difficult to fulfil the allowance of one gram of calcium. Even on this allowance, one out of 100 adults will be excreting more calcium than he ingests daily. It is utterly impossible to obtain the required amount of calcium through use of fruits and vegetables alone. That will be readily understood by examination of the table on calcium-equivalents:

Food	Calcium equivalent
6 medium oranges	1 cup of milk
1 cup of green peas	¾ cup of milk
3-4 medium potatoes	¼ cup
6 medium apples	⅛ cup
¾ head lettuce	¼ cup
1 cup diced carrots	¼ cup
Total: 22 servings	2 cups of milk

Some individuals are most concerned with the caloric value of milk. It is true that milk taken in addition to a diet already sufficient or too high in calories, will cause an individual to gain weight. Milk must be substituted for some other food. Yet of itself, milk is relatively low in calories.

Caloric Equivalent of 1 cup of milk (166 calories):

1 slice of bread and butter
 ½ milk chocolate bar (6½" x 3 x 3/16")
 small unfrosted cake (1¾" x 1½ x 1¼")
 scant ½ cup plain vanilla ice cream
 3 plain sugar cookies
 ½ piece of apple pie (1/12 of 9" pie)

Skim milk, with half the caloric value of whole milk, is highly recommended for adults. It furnishes the same quantity of calcium, phosphorus, protein, and B-vitamins. It lacks the small amount of vitamin A which can be readily obtained from other low calorie foods.

What is the place for dicalcium-phosphate supplements? For those individuals who cannot take milk, because of allergic reactions, such substitutions should be made continuously throughout life. Yet it is not sufficient to supply only this mineral when substituting for milk. The original diet pattern was arranged with the expectation that milk would furnish its quota of protein and vitamins, as well as calcium. Therefore, if pharmaceutical preparations are used in place of milk, larger servings of meat or eggs are required to furnish the necessary proteins. Probably B-complex supplements should also be taken.

IRON

Iron allowances are no problem for the male, but it is difficult, even though the pattern is carefully followed, for women to attain the proper amount. If blood tests indicate a lowered level of haemoglobin it may be wise to supplement with iron.

VITAMIN A

Whole milk, eggs and butter in the diet will furnish not more than one-half of the allowance of 5,000 International Units of Vitamin A. Therefore the pattern calls for the use of a bright green vegetable, or a deep orange fruit or vegetable daily. Comparison of the figures given in the table of the vitamin A content of foods, will show clearly that the usual servings of head lettuce, celery, cabbage, or peas will not supply enough vitamin A to safeguard the intake. Such foods as apricots, broccoli, winter squash, carrots,

or spinach in ordinary servings are dependable sources.

Vitamin A Content of Foods (Allowance: 5,000 I.U.)

	Amount	Calories	I.U.
Butter	1 tbsp.	100	460
Cheese, Cheddar	1½" cube	100	400
Creamed cottage	5 tbsp.	200	440
Cream	2 tbsp.	100	400
Cream, 20%	1 tbsp.	30	120
Milk, whole	½ pint	166	390
Egg	1	70	540
Apricot, dried, cooked	1/3 cup	100	2,500
Prune, cooked	1/3 cup	85	545
Tomato, canned	½ cup	23	1,200
Broccoli	¾ cup	24	3,400
Cabbage, green	2/3 cup	14	50
celery, green	1 large stalk	19	700
leaf	1 head	16	65
Lettuce, head	8 leaves	8	1,000
Peas	½ cup	56	575
Pumpkin	¾ cup	33	3,400
Squash, winter	½ cup	50	6,000
Spinach	¼ cup	11	5,300
Liver, beef	3 ounces	175	37,315
calif			19,130
sausage	1 slice, ¼" thick		1,725

THIAMINE

Thiamine is a dietary essential for which there is no one food, or class of foods, which can be recommended for daily use, which can be depended upon to furnish most of the daily quota. Pork has a high content of thiamine. One 3-ounce medium chop after it has been cooked, still contains about one half the day's allowance. For the most part, thiamine is furnished in small quantities by each of the foods in the pattern. Since breads have been "enriched," the problem of obtaining thiamine is much less than it was previously.

Thiamine Content of Foods (Allowance 1. to 1.5 mg)

Bread, whole wheat	1 slice	.07 mg.
enriched	1 slice	.06
unenriched	1 slice	.01
Breakfast cereals	av. serving	.10
Milk	8 ounces	.09
Egg	1	.04
Meat, beef	3-4 ounces	.05
pork, cooked	1 med chop	.60
Potato	4 ounces	.10
Vegetables, general	av. serving	.20
Citrus fruit	4 ounces	.12
Fruits, general	av. serving	.05

RIBOFLAVIN

The daily riboflavin allowance of 1.5 to 1.8 mg. is difficult to attain unless at least one pint of milk is included daily. This quantity of milk will supply approximately one-half of the daily need.

An average serving of liver or kidney is exceedingly rich in riboflavin, and contributes the total allowance. Most other foods furnish only small amounts. Riboflavin is of interest because of its relationship to some forms of cheilosis and other oral lesions.

Riboflavin Content of Foods (Allowance 1.5-1.8 mg.)		
Bread, whole wheat	1 slice	.03 mg.
enriched	1 slice	.04
Cabbage, cooked	½ cup	.04
Carrot, cooked	½ cup	.06
Egg	1	.13
Meat, beef	av. serving	.15
heart		.89
liver		2.38
kidney		1.99
tongue		.29
salmon		.18
Milk	8 ounces	.42
Spinach	½ cup	.18
Tomato	½ cup	.04

NICOTINIC ACID
(Niacin)

The nicotinic acid allowance is dependent upon the protein intake. Milk, which has a low content of niacin, is none-the-less important, because it is a good source of tryptophane, and therefore favours the intestinal synthesis of nicotinic acid. The bread-enrichment has made significant contributions to the daily intakes.

Nicotinic Acid Content of Foods (Allowance 12-15 mg.)		
Bread, whole wheat	1 slice	.7 mg.
enriched	1 slice	.5
Apple	1 medium	.5
Carrot	½ cup	.5
Potato	1 medium	1.0 to 1.7 mg.
Spinach	½ cup	.6
Tomato	½ cup	.8
Milk	8 ounces	.3
Egg	1	Trace
Beef	3½ ounces	4.0
Kidney	"	4.8
Heart	"	7.0
Liver	"	11.8
Salmon	"	7.0

VITAMIN C

The vitamin C or ascorbic acid allowance is one which is easy to fulfil because there are foods which are rich in content that are readily acceptable daily. The citrus fruits are among the best, as you will observe by inspecting the table on rich sources:

Orange, whole	1 small	50 mg.
juice	4 ounces	55
Grapefruit, half	medium	50-72 mg.
juice	4 ounces	45
Strawberries	2/3 cup	60
Cantaloupe	½	50
Watermelon	slice 6" dia. x 1¼" thick	36
Tomato, whole	1 medium	34
juice	½ cup	16-20 mg.
Peppers, green, raw	1 medium	90
baked	1 medium	65

It is well to point out the economic and vitamin wastefulness in using only the orange juice. When the fiber is eliminated, it requires approximately two oranges to furnish the same quantity of ascorbic acid which the whole peeled orange furnishes.

The various members of the cabbage family are moderately rich in ascorbic acid, as is seen in the next compilation:

Moderately Rich Sources of Vitamin C per Average Serving	
Cabbage, raw	25 mg.
cooked, short	27
cooked, long	16
Cauliflower, raw	35
cooked	17
Brussel Sprouts, cooked	33
Kohl rabi, raw	45
cooked	28
Rutabagas, raw	36
cooked	17
Potato, new, raw	17
cooked	14
old, raw	7-11 mg.
cooked	1-10

The next table which lists poor sources of vitamin C per serving should be carefully inspected. It shows clearly why other fruit and fruit juices, unless supplemented by pure ascorbic acid, are not safe substitutes for the citrus fruits.

Poor Sources of Vitamin C per Average Serving—Allowance 75 mg.		
Applesauce or juice	½ cup	0- 2 mg.
Apricots, cooked	1/3 cup	4
Banana	1 medium	10-15 mg.
Carrots	½ cup	3- 6
Celery	1 large stalk	3- 4
Fruit cup, canned	½ cup	0- 2
Grape juice	½ cup	Trace
Lettuce	¼ head	2- 5
Peaches	1 medium	4
Pineapple juice, or one slice		9

VITAMIN D

Vitamin D is not a dietary essential in quite the same way as the other vitamins. The body can synthesize its own supply providing the person is subjected to sufficient sunlight. The optimum amount of vitamin D for adults is not known. It is generally wise for those persons working at night, or for others whose habits shield them from sunlight, and for elderly persons, to supplement with a vitamin D preparation. This may be as a vitamin D milk, or a capsule or tablet. The minimum is probably 400 International Units.

CONCLUSION

On an empirical basis, it seems advisable to instruct periodontal patients to follow the recommended daily pattern for food intakes. Then, because their needs are probably greater, additional amounts of the mineral and vitamins are advisable for a few months. Supplementation with pharmaceutical preparations is probably the best method. These additions may be wasteful, yet they are good insurance against deficiencies.

Diet therapy alone cannot be expected to arrest or prevent periodontal disease. But without a diet which supplies the essential nutrients in sufficient quantities, periodontal tissues will not remain in a healthy state, nor will they respond satisfactorily to treatment.

If a diet record indicates that the foods required to furnish the essential nutrients are not consumed regularly, the diet should be adjusted, in spite of lack of medical evidence of sub-optimal intakes.

It requires thought and planning if a well balanced diet is to be consumed. Chance or food likes alone cannot be depended upon. Each person must review his daily diet frequently, to determine whether it is supplying the right foods. It is wise for everyone to follow a properly planned pattern made up of conventional foods.

Dietary Control in Periodontal Disease

How to get people to want to change their food habits requires: **PATIENCE** plus **KNOWLEDGE** of human nature.

Outline of procedure**A. Inquire into background:**

First inquire into the background of the patient — a brief dental, medical and general history.

2. As part of the regular examination routine, make a dietary study. Request a 7-day diet record — before anything is said about what the diet should contain. This should be a record of food eaten, arranged by meals, with between meal snacks properly designated. It should include details of kind and quantity of

each food: for example, two slices of whole wheat toast with butter and jelly; coffee with cream and sugar; four ounces of grapefruit juice.

B. When record is brought in:

1. Glance over the list briefly to see if all important information is given. Does it state:

- a. Whether coffee is black or with cream?
- b. What is used on breakfast cereal?
- c. How many slices of toast?
- d. Kind of meat? Fruit? etc.

2. Obtain other information:

- a. Is this a typical week?
- b. Have there been changes in the diet in recent years?
- c. Where are the meals eaten, at home or restaurant? (This gives information as to size of servings, whether butter is used on sandwiches, how soon food is eaten after preparation.)
- d. Are there special food likes or dislikes, or allergies?
- e. Is the diet a medically prescribed one? If so, for what condition?

3. Tell patient you will study the record and plan recommendations for another visit.

C. Evaluate diet record. (No single food alone can be used to judge diet.)

1. Qualitative analysis: Chart food intake by food groups.
2. Quantitative analysis: Use any good standard reference which gives nutrient content of average servings.

D. Discuss with patient:

1. Start with praise:
 - a. Say something complimentary — for example:
 1. The record was so carefully detailed.
 2. It is fine that you eat so many fruits and vegetables.
 3. It is unusual to find a person who eats a good breakfast.
2. This leads to telling the patient of the importance of a good diet:
 - a. The tissues of the body, including those of the mouth, cannot perform their functions or stay in good health

CHART FOR DIET ANALYSIS

Name of Patient..... Date.....
Age..... Height..... Weight..... Type of Case.....

Mark 1 for each average serving of each food in the proper space, check mark for part serving.

Standard/day (adult)	Food	1st day	2nd day	3rd day	4th day	5th day	6th day	7th day	Average
1 serving	Meat								
3 cups	Milk, Cheese								
1	Egg								
4-6 servings	Butter, Cream								
1 serving	(high vitamin C) Citrus Fruit or Tomato								
1 serving	Fruit (other)								
1 serving	Vegetable (yellow or green)								
1 serving	Vegetable (other)								
1 serving	Potato								
2-3 servings	Cereal foods (enriched)								
2-3 servings	Cereal foods (whole grain)								
	Sugar								
	Vitamin supplements								

without a proper proportion of chemical elements. These must be obtained from the diet.

- b. Use familiar comparisons:
The woman who cooks understands the importance of every ingredient if the product is to turn out well. Men know the importance of good structure, proper lubrication and fuels for efficiency of machinery.
3. Explain that obtaining a good diet cannot be left to chance or appetite—a *pattern* or *recipe* must be followed. Point out that the less experienced one is, the more important it is to follow the pattern or instructions carefully.
- a. Using the pattern chart or quantity figures, show the patient how his diet compares with the standards.
- b. Give specific recommendations for needed improvements, considering: food customs, available foods, costs, and any specific limitations, such as

- allergies, ulcer, diabetic or other condition.
- c. Be complete but do not befuddle with too much detail. Specify how many servings, and how much of each food. Explain how changes in diet can be made: add milk to breakfast or lunch; use fruit instead of coffee for between meal snacks. Make positive statements: emphasize DO and not DON'T.
- d. Stress importance of continuing this improvement permanently. If patient has a growing family, point out the value of a good diet for the entire family—the greater cooperation of children if the parents eat properly; that the same foods are necessary for all, adults and children.
- e. Give patient a check-chart to follow or a written list of foods and desirable supplements. Be specific.
4. Provide for follow-up:
a. Have patient keep a chart or new list after a brief interval.

- b. Ask questions about diet at return visits, just as is done with tooth-brushing techniques. Do this both during remaining treatment visits and at recall visits.
832 La Salle Building.

Résumé

D'une façon empirique, il est à conseiller aux personnes, qui ont subi des traitements de périodontie, de suivre le régime alimentaire quotidien, qui leur a été recommandé. Leur état exige probablement des quantités plus grandes de minéraux et de vitamines pour quelques mois, après leurs traitements. Des préparations pharmaceutiques appropriées donnent peut-être le meilleur supplément nutritif possible. Ces additions alimentaires peuvent être inutiles, mais n'en constituent pas moins une protection contre les carences nutritives.

La diète seule ne peut arrêter ou prévenir les pathologies alvéololytiques; néanmoins elle est indispensable à la santé des cellules paradentaires et donne une réaction favorable aux traitements.

Il peut arriver que la liste des produits consommés montre des carences d'aliments essentiels: dans ces cas, il faut que l'alimentation soit régularisée, même s'il n'y a pas d'évidence médicale de sous-alimentation.

L'élaboration d'une diète balancée exige beaucoup de travail et de prévision. Il ne faut pas se fier au hasard, ni aux goûts personnels. Chacun doit examiner de temps à autre sa diète de tous les jours pour se rendre compte si celle-ci répond à toutes les exigences. Il est important de suivre une diète balancée, faite d'aliments d'usage courant.

ANNOUNCEMENTS

ART EXHIBIT

(In connection with the C.D.A. Convention) Ottawa, September 23-26, 1951

Get your entries ready for Art Exhibit. Open to dentists and members of their families. Camera prints, oils, water colours and crayons will be gladly received. Send in that enlarged snap of which you are proud! All exhibits will be carefully returned. For further information, write:

Dr. A. W. Grace, Chairman of Art Committee,
56 Sparks Street, Ottawa, Ont.

ANNUAL FALL CLINIC OF THE MONTREAL DENTAL CLUB, Montreal, November 21-23.

THE 1951 ANNUAL A.D.A. MEETING will be held in Washington, D.C., October 15-18.

THE ANNUAL CONVENTION OF THE AMERICAN ACADEMY OF PERIODONTOLOGY, Washington, D.C., October 11-13.

There is so far no definite and acceptable proof of a casual relationship between any specific microorganisms and the carious lesion. While there was for a number of years a widespread emphasis on the B. acidophilus (to use one name for an organism, or organisms, which has been variously named by different writers) this is not so definitely the picture today. This particular organism is able to produce acid with a high degree of efficiency under conditions as they exist in the mouth, but there is not proof that it is the only organism directly associated with the decalcification process. The B. acidophilus count has been used by a number of writers as an expression of the susceptibility of a particular mouth to caries. It would seem more logical at this time to use this count purely as a clinical tool to determine the suitability of a mouth for growth and development of aciduric organisms. If the count decreases and remains at a lower level, as a result of the prophylactic measures taken, then something has been accomplished to make that mouth less favourable as a habitat for aciduric organisms.—J. Stanley Bagnall, Dean, Dental Faculty, Dalhousie University.

The Forum

DENTAL ASPECTS OF CONGENITAL AND RHEUMATIC HEART DISEASE

by CHARLES R. MESSELOFF, M.D., New York City

Condensed from *N.Y. Jour. of D.*, March 1951

Diseases of the heart are a major source of disability and constitute the leading cause of death in the United States. Of the several aetiological types of heart diseases, the two that concern us now—congenital and rheumatic—are the cause of the overwhelming majority of cases of heart disease in individuals under 40 years of age. These diseases are of concern to the dental practitioner who may expect to find that, on the average, two out of every hundred patients under the age of 40 have either rheumatic or congenital heart disease.

No method of treatment is available for heart disease due to rheumatic fever. Here the cause of the heart disease is not a developmental abnormality but an infection, the precise nature of which is still in doubt.

Rheumatic fever has a marked tendency to recurrences so that individuals who have one attack are very prone to have others. In these recurrent attacks the heart is further damaged.

Because oral infections do not cause rheumatic or congenital heart disease there has been a tendency to overlook their importance in maintaining the general good health of the affected individuals. If healthy gums and teeth are important for persons with normal hearts they are doubly so for those with diseased hearts. Gingivitis, dental and pulp diseases may lead to loss of teeth and thus be a factor in causing malnutrition and adversely af-

fecting the course of the heart affection. Moreover, as will be shortly pointed out, post-extraction bacteremias occur more frequently and are more severe in persons with oral sepsis. Dental hygiene must therefore be regarded as an integral part of the management of rheumatic and congenital heart diseases.

The numerous observations on the relationship of dental disease and extraction to subacute bacterial endocarditis find their explanation in clinical and laboratory studies which have demonstrated that showers of organisms, predominantly streptococcus viridans, gain entry into the blood stream following operations on the teeth or gums.

The significance of gingival disease is emphasized by the fact that even minor degrees of injury such as cleaning, massaging of the gums or rocking the teeth in individuals with pyorrhea, may also be followed by transitory bacteremia.

The bacteremias thus produced are transient. Within ten minutes in most and thirty minutes in practically all cases the blood stream is cleared of organisms.

Unfortunately in persons with valvular or congenital heart lesions such transient bacteremias may be of serious consequence due to the peculiar susceptibility to the lodgment and tenancy of organisms. Here lies the potential tragedy of poor oral hygiene or of dental treatment in patients with

congenital or rheumatic heart disease. The repeated showers of streptococci in the blood stream offer these organisms multiple opportunities to gain a foothold on the damaged parts of the heart where they can grow, cause local destruction of tissues with deposition of fibrin, platelets, red and white blood cells, and thus produce the vegetations characteristic of subacute bacterial endocarditis.

Precautions must be taken to prevent or at least to reduce the frequency and the severity of the bacteremias following extraction of teeth or other dental surgical operations.

There is nothing to indicate that a short general anaesthesia or any one of the local anaesthetics is not well tolerated by these patients. A valuable guide for deciding whether there is an added hazard in such cases is to determine whether they can perform the ordinary every day activities without undue breathlessness or fatigue. If a local anaesthetic is deemed preferable, it should be combined with epinephrine for its local vasoconstrictor action.

The problem is entirely different when congestive heart failure or active rheumatic fever is present. In such instances it is not advisable to do any type of elective surgery. When, however, dental surgery is imperative, a short general anaesthesia, if indicated, or any one of the local anaesthetics may be given with little fear of unto-

ward sequelae.

The main dental problem in the management of congenital or rheumatic heart disease is not anaesthesia but prevention of the post-operative bacteremia and subsequent development of subacute bacterial endocarditis. The maintenance of good oral hygiene is probably the best prophylactic measure. Various means have been advised to prevent this bacteremia. The most effective method thus far has been the prophylactic use of penicillin.

The preferable preparation is a combination of penicillin G with procain penicillin. Two cc (600,000 units) should be given intramuscularly one hour prior to extraction and daily thereafter, if deemed necessary.

The failure of penicillin to completely prevent the bacteremia following extraction offers a plausible explanation for the occasional case of subacute bacterial endocarditis that occurs despite the prophylactic use of penicillin.

Since dental disease and operations have been found to be so important in the pathogenesis of subacute bacterial endocarditis, it is now the usual practice to make a complete dental examination and to eradicate all possible foci of infection in patients who had subacute bacterial endocarditis before their discharge from the hospital and while they are yet receiving full therapeutic doses of penicillin.

THE TREATMENT OF TEETH WITH EXPOSED HEALTHY PULPS

by WALTER HESS, Dr. Med.

Visiting Professor of Conservative Dentistry, University Dental Institute, Zurich, Switzerland.
Chief Editor for the "Schweiz Monatsschrift für Zahnheilkunde."

Summary of paper in *International D. Jour.*, Dec. 1951

1. The main task of conservative dentistry is the preservation of a healthy pulp either through caries prophylaxis, early treatment of caries or suitable filling materials, or by preparation of cavities carried out with the necessary understanding of the physiology of the dental tissues.

2. The indirect capping of the pulp

is an empirical method of prophylaxis for which sufficient scientific foundation is yet lacking. The provisional indirect capping of the pulp is to be recommended and the tooth should be kept under observation for a prolonged period. Agents like Calxyl, 10 per cent aqueous solution of silver nitrate with zinc oxide-eugenol or 10 per cent

aqueous solution of silver nitrate precipitated by calcium chloride in saturated solution are recommended, the cavity subsequently being sealed with phosphate cement.

3. Treatment of the exposed healthy pulp consists in protecting the pulp by a biological wound dressing under aseptic conditions, so as to give the pulp tissue a suitable environment for repair.

4. Direct capping of the pulp in suitable cases, if performed with scrupulous asepsis and with suitable biological agents for wound dressing, results in the maintenance of a vital functional pulp in 85 per cent of cases according to the results of most investigations. Apart from sterile dentine and ivory powder, calcium preparations, such as calcium hydroxide, Serocalcium, Dentinogene, have proved themselves very suitable as agents for wound dressing.

5. Vital amputation of the healthy

pulp is based on the same principles as the direct capping of the pulp. Transferring the pulp wound to the entrance of the root canal facilitates the prevention of a possible infection of the pulp tissues, thereby creating favourable conditions for healing.

As agents for wound dressings, calcium hydroxide, Serocalcium and Dentinogene are the materials of choice, and give good results in 85 to 90 per cent of cases.

6. The histopathological investigation of pulps after direct capping and after vital amputation correspond, both showing the repair of the pulp wound by newly differentiated odontoblasts covering the pulp with newly formed dentine.

7. Every method which can keep the damaged pulp alive and healthy is preferable to the best root filling, and keeps the periapical tissues healthy.



"It IS open!"

Courtesy of Maclean's Magazine.

GENERAL ANAESTHESIA FOR THE PAEDODONTIC PATIENT

by GEORGE W. TEUSCHER, Ph.D., D.D.S., M.S.D.

Condensed from Northwestern Univ. Bul., Jan. 1951

It has been apparent to dentists for a long time that a need for a good medium of child management has existed. It is not unusual to find a great deal of dental caries in very young children and occasionally in children less than two years of age. Patients such as these present a serious problem to the dentist and the parents, if their mouths are to be restored to a condition of normal function.

Age is not necessarily a determinant in this matter, for there are many children of adolescent years who are as difficult to manage as the two-year-old children might be. In fact, because of their age and the determination of their habit patterns, they present really a more serious problem than the very young children do.

The dentist is in a position to exercise careful judgment in introducing the patient to his first dental experience, and it is generally well to make the first visit short and as pleasant as possible. When it becomes necessary to cause any pain, even though slight, it is best to tell the child just in advance that he may experience some pain. It should be told casually and in a quiet voice. Again the parents come into the picture, when the visit is finished; the dentist should ask them not to discuss the matter extensively and then only to point out to the child the importance of caring for the teeth.

All of the things mentioned above may be properly handled and still the patient may be unmanageable in the dental chair. Pain is, of course, the reason usually for failure of the child to cooperate. Until the dentist is able to prevent pain, usually completely, such children will remain unmanageable. As a profession we must recognize the importance of this point. A great deal of psychological trauma undoubtedly occurs when force is employed to gain some semblance of co-

operation from the patient. It is my opinion that force is excusable only in cases of emergency and when no other method is available.

The prevention of pain has been of major interest and concern in paedodontics from its inception. Careful operating has always helped to reduce the amount of pain inflicted; but it cannot assure the prevention of all pain. For the children with whom we are concerned in this article, it is necessary to prevent all pain in order to manage them successfully. This requirement leaves us face to face with the problem of anaesthesia.

Realizing that local anaesthesia could not always be used for children without developing a serious management problem, we set out to develop a technique of anaesthesia which would make possible the accomplishment of extensive dental operations for children without physical pain or psychic trauma.

In young children it is important to have sufficient sedation to produce amnesia and reduce strain and fatigue for the period immediately preceding operative manipulations. In certain terror-struck and excited children, a basal narcosis by the oral or rectal route while the patient is in his own room avoids disturbance en route to the operating room.

Sedation by drugs is effective in increasing the threshold to pain and lowering the metabolism by allaying excitement, thus reducing the amount of oxygen required, and the period of restlessness and excitement which frequently accompanies the return to consciousness from anaesthesia can be largely circumvented.

Forty-two patients were studied at Wesley Memorial Hospital. Nineteen were male. The age range was from 2 to 13 years. The physical state was good in all cases.

The technique of anaesthesia was the orotracheal or nasotracheal insufflation of ether. A wet gauze pack placed lightly in the pharynx around the tube prevented aspiration of debris, cement, and blood.

The supine position, which was used in all cases, did not seem to hinder the performance of the dental surgery. Care was exercised to prevent the aspiration of foreign particles. The restorative work in many cases was very extensive, necessitating 40 to 120 minutes for completion of the work.

The work included amalgam and cement restorations, pulp therapy and extraction of teeth. A foot engine was used to avoid explosion of the ether.

The dental profession should pay more attention to psychic trauma. Studies in general anaesthesia indicate that this is at least one way to deal with it successfully. Also, the hospital study showed that favour is given to the preoperative sedation of seconal in combination with demerol and atropine, followed by endotracheal insufflation of ether.

THE PROFESSIONAL MAN GROWS OLDER—HIS DIET AND HIS ARTERIES

by ANCEL KEYS

Director of the Laboratory of Physiological Hygiene
University of Minnesota, Minneapolis, Minn.

Excerpt from paper in *North-West Dent.*, October 1950

What advice, then, can be given to the professional man in regard to maintaining the health of his heart and blood vessels? Are there any elements of a physiological hygiene which can be recommended at this time? Although much research is needed to extend our present very limited knowledge, there is some sound advice possible now. First and foremost is probably the advice to have a medical check-up regularly. Early detection of any adverse changes is important. But this does not mean that people should go around worrying about their hearts. On the contrary, worry and tension of all sorts should be avoided. There is no doubt that the blood pressure and heart action are sensitive to emotion. The old rule of moderation in all things still holds good. Overexertion, excessive tobacco, too much alcohol, overexcitement, overeating—all of these are bad in one way or another and none of them does the heart and arteries any good. Moderation in the diet seems to be particularly important. Overeating and the resulting obesity are adversely reflected in all vital sta-

tistics and in the Laboratory of Physiological Hygiene we have observed the deleterious consequences in measurements of the blood and circulation. In general, we see no reason why the body weight at any age should be allowed to exceed the normal weight at age of twenty-five. For the professional man who has little opportunity for real exercise, it should be observed that his muscle mass is getting smaller as he grows older; even if he does not gain weight beyond his college days, he may be getting relatively fatter. Fatness rather than simple weight is the real problem. On the whole, a regular habit of moderate exercise is probably desirable. However, caution should be observed in hot weather when the heart is likely to be under a strain from the heat alone; in the winter one should be sensible about unusual exertions such as snow shovelling or trying to start stalled cars. From the research programs now in operation, we may hope that the bases for more definitive advice will come in future years.

"The real problem of your leisure is how to keep other people from using it."



SEPTEMBER 23, 24, 25, 26, 1951

LEAVING ON A VACATION SOON? Before you go register for the Convention at Ottawa as one of your **MUSTS** before you leave town. Write Dr. H. N. Beach, 150 Metcalfe St., Ottawa, stating the number in your party and the accommodation required. Send your cheque too for \$15.00.

If you are travelling by railway, get your travel certificate for reduced fare. Write the secretary, 234 St. George St., Toronto.

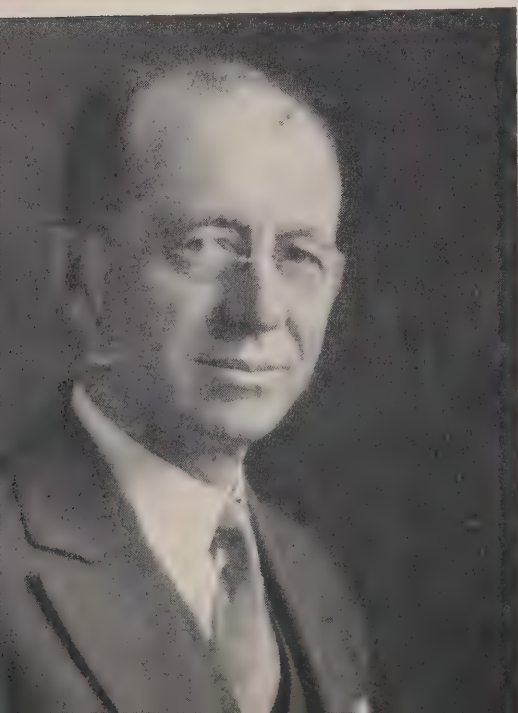
Did you see the Convention program in last month's "Journal"?

SEE YOU IN OTTAWA IN SEPTEMBER. The convention program is good, and the hospitality of our hosts—The Eastern Ontario Dental Association—even better.



The first George W. Grieve Memorial lecture is a feature of the Convention program and will be given by DR. GERALD FRANKLIN of Montreal. This is a unique occasion, where a great Canadian dentist is being thus commemorated. It has been said of Dr. Grieve that "He was precise as to detail in every thing he did and constantly endeavoured to reach the ideal. Though he achieved a position of prominence, he remained a modest and sincere gentleman, who gave generously of his time and talents."

Dr. Franklin's address will be a highlight of our national meeting.



← **Late Dr. George Wellington Grieve**



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Editorial

THAT 5000 DOLLARS

After reading this article please send five dollars, or as much more as will make you happy, to Dr. Don W. Gullett, 234 St. George Street, Toronto, and you will be rendering a real service to Dentistry.

For the cause that lacks assistance,
For the wrong that needs resistance,
For the future in the distance,
And the good that I can do.

So wrote George Linnaeus Banks (1821-1881) in an article entitled "What I Live For." We as dentists have something to live for so long as dentistry has not reached its goal and that will not be in your lifetime or mine.

There is one phase of dentistry that perhaps does not receive the general support which is its due, and that is the branch of our profession known as "Orthodontics." So few of us practise this branch of Dentistry and few of us know much about it. We see a condition of irregularity and turn the patient over to the specialist and then proceed to wash our hands of the whole matter. The fact is that while active corrective treatment is chiefly the responsibility of the specialist, the role of the general practitioner lies in the field of prevention, and that field is a very large and important one, one that calls for careful observation and a skill in diagnosis which requires study and much care. For this reason each of us should do everything possible to support this branch of Dentistry, for we must look to the specialist in this field to advise the general dental practitioner as to what constitutes adequate preventive treatment.

It must be a great source of satisfaction to the orthodontist when he eradicates unpleasing deformities in facial contour caused by tooth malposi-

tion or malocclusion. Too much emphasis cannot be placed on the effect of deformed features in relation to the future career of the individual. A young man or woman with unpleasing facial deformities is tremendously handicapped in the ever-increasing struggle for success in the early years of business or professional life.

Any consideration of dental problems must be concerned with deformities of the arches or malposition of the teeth. Malocclusion seriously interferes with effective chewing, speech, facial attractiveness and social adaptability. The orthodontic problem is usually noticed during the formative years and although the cause may be hereditary, congenital, or due to poor hygiene, it frequently may be caused by a perverted habit or habits such as thumb sucking, tongue thrusting, bad swallowing habits, or mouth breathing. We live in a face-conscious society where people with irregular or unsightly teeth are often the butt of ridicule or nick names such as "Buck tooth" or "Bugs Bunny." While these may be amusing to those who are blessed with nice, even and regular teeth, they are a psychological handicap to the victim. It is gratifying to see the change in personality in one of these unfortunates after the teeth have been regulated. Teeth have been likened to a set of gears where each tooth fits exactly into the crevice between two antagonists. No one expects a set of gears to last very long if the teeth do not mesh.

The speciality of orthodontia revolves about two words—balance and harmony. The successful and progressive orthodontist constantly lives and works under the spell of these two words, for they are the factors of greatest influence in determining whether or not the ultimate result of his treatment will be success or failure.

So with such a picture of orthodontia, does it not behove each one of us to support in every way possible the development of this speciality? We have a most energetic group of orthodontists in Canada who have formed a Section for Orthodontic Specialists within the structure of the C.D.A. The officers of the Section are: Chairman, Dr. Rayburn R. McIntyre, Calgary, Alta.; Vice-Chairman, Dr. J. Abra, Winnipeg, Manitoba; Secretary, Dr. Braithwaite Dixon, Ottawa, Ontario. There are about fifty who limit their practice entirely to orthodontics. Twenty-one of these men attended the four-day meeting of the American Association of Orthodontics at Louisville, Kentucky, early in May. In fact, they went a day early in order to discuss their own Canadian problems. These men need our support. The Canadian Dental Association approves such support and the Governors of our Association at its last meeting approved the establishment of the George Wellington Grieve Memorial Lectureship as a fitting memorial to a great Canadian dentist and an internationally known orthodontist. It is believed that this Lectureship will develop and broaden the concept of what Orthodontics means to the people of Canada.

This lectureship is being established by the Canadian Dental Association and the funds for its establishment is being provided through voluntary contributions from the dentists of Canada and others who may be interested.

To implement such a project at least \$5000.00 is necessary. The fund to date has received contributions amounting to \$2221.00, so this article is being presented to urge every reader to participate in this most worthy effort. Receipts will be issued which may be claimed as a deductible item for income tax purposes.

The first lecture under this program will be given in Ottawa at our National Convention in September by Dr. Gerald Franklin of Montreal, Professor of Orthodontics at McGill University, and promises to be of historic interest, so we must all be there.

Let us again remind ourselves that every land and every race have varying ideals of physical beauty but all of them demand beautiful teeth in those whom they place on the pinnacle. To this end every dentist must be vitally interested and we would like to feel that a great many were interested enough to have their names linked up with this new Lectureship, the first in the history of Canadian Dentistry.

M.H.G.

ROYAL CANADIAN DENTAL CORPS NEWS

Colonel E. M. Wansbrough, O.B.E., M.M., E.D., attended the Annual Convention of the Ontario Dental Association held in Toronto, May 14-16.

Colonel E. M. Wansbrough sailed from Montreal on the "Empress of France" for the United Kingdom and the Continent. While abroad, Colonel Wansbrough will attend the XIII Congress of Military Medicine and Pharmacy being held in Paris, France, June 17-23, 1951. He will also be the official representative of the Canadian Dental Association at the Annual Meeting of the British Dental Association in London, England, July 2-6, 1951.

Lieut.-Col. G. B. Shillington, with others of the Inter-Service Medical Committee, recently completed an inspection of the dental facilities of the major treatment centres in Western Canada. The cities of Winnipeg, Regina, Calgary, Saskatoon and Edmonton were visited.

Four Reserve Force Dental Companies are in the final stages of the competition for the Moore Trophy. Lt.-Col. R. E. Carroll, E.D., C.D., Deputy Director of Dental Services is now on a tour of inspection of these units and the winner will be announced shortly.

The formation of a Reserve Force Dental Advisory Staff has been authorized. This new unit, consisting of five Colonels and seven Majors, will confine its activities to the Reserve Force Dental Units. The appointments are one Colonel at each Command Headquarters and one Major at each Area Headquarters. The members of the Staff are being selected from those dentists who combine professional ability and military

experience. It is anticipated that the provision of this Staff will do much better liaison with members of the dental profession and R.C.D.C. units (R.F.).

The R.C.D.C. had an exhibit at the Western Canada Dental Society Convention in Winnipeg June 4-7, 1951. The display consisted of large photographs showing instructional phases at the R.C.D.C. School and smaller photographs, inserted on mats with printed description, explaining the training in detail.

Majors R. B. Jackson, E. C. Purdy, H. W. Hart and V. E. Farrell have recently completed courses as follows:

U. S. Naval Dental School, Bethesda, Md.

Major Jackson—Crown & Bridge Operative Dentistry

Major Purdy—Periodontia

University of Toronto

Major Hart —Prosthetics

Major Farrell—Periodontics

Major A. T. Roger, M.B.E., and Capt. N. S. Gage, who both served with the R.C.D.C. in Canada and Overseas during the Second World War were recently re-appointed to the Corps. Major Roger graduated from the University of Toronto in 1937 and has been practising in Toronto since his retirement from the Service in 1946. Capt. Gage, who held the rank of Major on retirement in 1945, was born in Kingston, Ontario and graduated from the University of Toronto in 1933. He has been associated with D.V.A. in Kingston, Ont. since 1945.

Warrant Officer D. H. Evans has been promoted to the rank of Lieutenant and appointed Quartermaster.

CANADIAN DENTAL ASSOCIATION NEWS

FROM THE OFFICE OF THE SECRETARY

Annual Meeting 1951:—Advance registrations indicate a large attendance for the Annual Convention at Ottawa, September 23-26 next. In the announcement of the program, being distributed to the membership, will be found a program covering all phases of practice. The Convention Committee under the Chairmanship of Dr. Hilliard Pritchard of Ottawa is prepared for a great convention. The Ottawa Dentists' Wives Association have arranged a program of entertainment for the ladies.

Application for reservations should be forwarded at an early date to Dr. H. N. Beach, 150 Metcalfe St., Ottawa.

Board of Governors Meeting: The Sessions of the Board of Governors will begin on Wednesday, September 19 at the Chateau Laurier Hotel. The meetings of the Board are open to the membership, and attendance of members is appreciated.

British Health Scheme Seek To Reduce Costs: The national budget in the welfare state becomes an event which directly affects the way of life of every citizen. Due to the need for financing other activities and also the soaring costs of the health program, the recent British budget reduced the stated health benefits under the National Health Act. In future the public will be required to pay one half of the costs of artificial dentures and spectacles. This action on the part of the government caused the resignation of the former Minister of Health, Aneurin Bevan, and one or two other cabinet ministers.

Taking advantage of the embarrassing financial position of the government the Incorporated Dental Technicians' Association of Great Britain presented a memorandum to the government pointing out how enormous and immediate savings could be made by "eliminating the profits gained by dentists through paying cutprices to the technicians." Further advice was given the government in this memorandum that technicians could be easily qualified for the chairside work now being done by the dentist. Whether or not the government has taken cognizance of this submission has not been reported. It is characteristic of such statements that the words "quality of service" are not to be found therein.

The members of the dental profession in Great Britain are becoming more and

more apprehensive of their clinical freedom. During the passage of the National Health Act and the developmental period of drafting the regulations the British Dental Association repeatedly pointed out the serious loss of clinical freedom under the terms as laid down. Government officials, at great pains, pointed out that this could not happen as the Dental Estimates Board would be composed of professional men and a local dental officer would be available to give a second opinion on cases.

Approvals for treatment are sent to the Dental Estimates Board, a body composed of some six qualified dentists and several hundred lay clerks. It is stated in a recent issue of the British Dental Association Journal that it has become quite clear to the profession that the Board regard a clinical examination of the patient as being a waste of time. This applies particularly in respect to any treatment, other than routine, such as orthodontic adjustments. In reply to such submissions for approval the dentist simply receives a form letter, identical in each case, stating that the Board is not prepared to approve a fee for such treatment.

Statement is also made that the Dental Estimates Board care naught for established professional rights under Common Law, and prefer to lay down their own rulings for the profession. Under Common Law, when a general practitioner undertakes the treatment of any condition he undertakes to bring to it that amount of skill which it is reasonable to expect in any general practitioner, no more and no less, and he is entitled to his fee at the conclusion of the treatment, even if that treatment has not been successful. It appears that the Dental Estimates Board disregards the recognized principle involved by laying down some mass regulation disregarding the clinical difficulties involved in the individual case. As pointed out by the B.D.A. this constitutes a real and new danger to the profession.

Grieve Memorial Lectureship Fund:—

Donations in support of the Grieve Memorial Lectureship have now reached a total of \$2,421.00. The donors have been widely distributed geographically. A considerable portion of the monies have come from members of the profession outside of Canada which indicates the high esteem in which Dr. Grieve was held by dentists everywhere.

The objective of this fund is to establish the lectureship upon a permanent self-supporting annual basis. In order to accomplish this additional funds will be necessary. Cheques should be mailed to the Secretary, Canadian Dental Association, 234 St. George Street, Toronto. Receipts for income tax deduction purposes will be sent promptly in return.

Survey of Schools: — The Council of Dental Education announces that the initial visits of the survey team to all the dental schools have been completed. The initial program of the survey covers a three year period and reports will be made on a confidential basis only to the authorities concerned. The survey team has had a splendid reception in every school and full cooperation in the work has been given by members of the staff in each case. The active interest shown in this effort augurs well for future dental education in Canada.

92nd Meeting American Dental Association at Washington: — The Annual Meeting of the American Dental Association will be held at Washington, October 15-18 next. Application blanks for making hotel reservations, together with a map indicating the location of hotels that will house convention visitors, may be obtained by writing The Secretary, Canadian Dental Association, 234 St. George St., Toronto.

XI International Dental Congress — 1952 London England: — Thos. Cook & Sons have been appointed official agents by the C.D.A. to look after travelling arrangements for members intending to attend the London Congress July 19 to 26, 1952. This meeting occurs during the height of the tourist season and emphasis is placed upon the fact that reservations will be very difficult to secure unless made well in advance. Thos. Cook & Sons have now issued a questionnaire to all members of the Association in an endeavour to establish the number and itinerary desired by the majority. If interested please return questionnaire promptly.

Translations Available: — The C.D.A. pamphlets "Dentistry as a Career" and "A Charter for Dental Health" have both been published in French. Copies in both English and French are available upon request.

Annual Report 1950-1951 — Dental Health Division Department of National Health and Welfare:—Your attention is directed to the annual report of the

Dental Health Division, Department of National Health and Welfare, which follows. The work of the division is highly commendable and constitutes a powerful force in the preventive field of dentistry. The profession is greatly benefited by the activities of the dental health division and the close liaison of the division with the Canadian Dental Association is appreciated.

Department Of National Health And Welfare

Annual Report 1950-51—Dental Health Division

Directing its efforts chiefly to broadening the field of preventive dentistry, with a view to reducing the prevalence of dental caries, irregular teeth, and periodontal disease, the Dental Health Division this year continued its research activities, and its educational work, and provided consultant and other services for most of the Divisions in the Department, as well as for provincial departments of health and the Canadian Dental Association.

The Brantford Water Fluoridation Caries Study was continued and the work extended to include an epidemiological study of gingival conditions among school children and young adults. In this study, the teeth and gums of 1800 children in Brantford, where the public water supply is being artificially fluoridated, were compared with those of 1800 children in Sarnia, who serve as a "control group." In addition, the mouths of over 200 young adults of Stratford, Ontario, where the water has an optimum natural fluoride content, were examined. The statistical work in connection with this study was supervised by the Research Division. Consultative service on certain technical aspects of this work was obtained from the Associate Committee on Dental Research of the National Research Council, of which Committee the Chief of the Dental Health Division is an ex officio member. Technical aid and advice was obtained also from members of university faculties of dentistry.

A new public health research project was set up in the form of a pilot model dental preventive service for adults in which a prophylactic and counselling service is given by a dental hygienist under the supervision of a dentist. The supervising dentist works with the dental hygienist and provides a diagnostic service wherever it is indicated. Close liaison is maintained with the Civil Service Health Division with mutual referral patients. Those whose oral conditions indicate it are referred to the

Nutrition Division for counselling and report. A working arrangement has been made with the local dental society to facilitate the referral of patients for emergency and other dental treatments. It is proposed to operate this pilot model dental preventive service for a year or two in order to determine its place and its value in an industrial health service. This makes it a matter of some interest to both the Civil Service Health Division and the Division of Industrial Hygiene.

A dentist and a dental nurse from this Division assisted the Nutrition Division on several surveys in local health units, and in a Canada-wide nutrition study of Indian children. This provided us with an opportunity to obtain valuable data on the dental health of children in various parts of Canada. Also, oral examinations were made of patients in an optic atrophy study which is being conducted by the Department under the supervision of the Nutrition Division.

To further the cause of prevention, this Division, in cooperation with the Information Services Division, carried on the preparation of dental health education material, in the form of booklets, folders, posters, films and filmstrips, for use in schools, health units, industrial plants, and private dental offices.

The informational campaign advised the public concerning the most effective methods of preventing and controlling dental disease, particularly among children. It warned that less than one per cent of people escape tooth decay, and that more teeth are lost after the age of thirty years from periodontal disease than from decay. Admitting that it was impossible to estimate the number of people who suffer from the pain and other ill effects of infected teeth, alveolar abscesses, pyorrhea, lack of masticating powers and personal disfigurement, the Division sought to make Canadians realize that only through regular early dental care of the child can dental disease among adults be brought within controllable limits and diseases related to dental infection and deficiency be avoided.

In addition to the cooperative relationships referred to above, consultant services were provided to other divisions of the Department in matters related to the practice of dentistry and to dental public health in general. These services may be summarized as follows:

- (1) To the Food and Drug Divisions in connection with the formulae of dental drugs and dentifrices,
- (2) To the Patent or Proprietary Medicines Division in connection with applications to market dental reme-

dies under the provisions of the Patent or Proprietary Medicines Act.

- (3) To the Division of Narcotic Control; advice concerning the use of narcotics in the private practice of dentistry.
- (4) To the Mental Health Division; mutual aid in the preparation of health education publications.
- (5) To the Division of Child and Maternal Health; mutual aid in the preparation of publications.
- (6) To the Directorate of Indian Health Services; advice regarding the most effective policies to pursue in rendering dental health services to Indians. Visits to Indian Health Services dentists.
- (7) To the Directorate of Health Insurance Studies; advice on problems entering into a consideration of health insurance in relation to dental disease. Examination of dental projects submitted by the provinces under the Federal Health Grants.
- (8) To the Laboratory of Hygiene; mutual aid in obtaining information concerning the relationship between the bacterial flora of the mouth and dental caries. Saliva samples are shipped in from dental surveys to the Laboratory of Hygiene, where bacterial counts are made.
- (9) To the Division of Public Health Engineering; exchange of information on the various implications of adding fluorides to public water supplies to prevent dental caries.
- (10) To the Division of Epidemiology; exchange of information on matters affecting the study of dental disease and its relationship to general health.

The Division aims at a close working relationship with its counterpart in each provincial department of health. The dental health program of every province which has a clearly defined program, is discussed with its dental health division with a view to correlating and supplementing the efforts of all the provinces. Nine, out of the ten provinces, now have active dental health divisions operating under the direction of a dentist with a public health degree. Seven of these have been created during the last three years, with the help of Federal Health Grants.

Close liaison is maintained with the Canadian dental profession. The Chief of the Division sits in an advisory capacity at the annual meeting of the Board of Governors of the Canadian Dental

Association, and is invited to the regular meetings of its committees on Public Health and its Health Insurance Studies Committee. The Research Committee of the Canadian Dental Association, working in cooperation with the Dental Health Division advises the Food and Drug Divisions of the Department on technical matters relating to dental drugs and remedies.

All the relationships of this Division, whether they be with other divisions of the Department, with provincial departments of health, dental professional bodies, research groups, or universities, are conducted for the purpose of contributing to the improvement of general health by the prevention and early treatment of dental disease.

Revised Fee Schedule—D.V.A. Dental Services:—During recent months negotiations have been taking place between the Department of Veterans Affairs and the Dental Services Committee, Canadian Dental Association, directed toward a revision of the D.V.A. fee schedule.

In January last fee schedules were collected from areas all across Canada. These fee schedules were then averaged on a provincial basis. Effort was made to have these schedules represent, as accurately as possible, current fees being used in private practice in both urban and rural areas. The averages were used in making presentation for the revision of the existing schedule. The Committee desires to give credit to the federal authorities for the favourable consideration given the submission.

Notification has now been received that the Treasury Board has approved the revised Schedule of Dental Fees hereto attached, with effect June 1, 1951.

The Department of National Defence has indicated that that Department will adopt the revised schedule.

DEPARTMENT OF VETERANS AFFAIRS

Schedule of Dental Fees for payment to Civilian Dentists

Fees for dental operations other than those listed and fees in excess of those allowed for similar operations must be approved by the Director.

(NOTE: Letters in parentheses are reference to explanatory comments in similarly lettered sub-paragraphs immediately following this schedule.)

(a) Authorized diagnosis and report	\$ 2.00
(b) Treatments	
(1) Prophylaxis (Including scaling and polishing)	3.00
(2) Minor periodontal treatment, each	2.00
(3) Emergency (Palliative)	2.00
(4) Pulp Cap	2.00
(c) Radiographs and Diagnosis	
(1) Single—intra-oral film (Bite-wing or apical)	2.00
(2) Each additional film	1.00

(3) Complete series, upper or lower (7 films)	6.00
(4) Full mouth series (14 films)	10.00
(d) Surgery	
(1) Extraction under local anaesthesia	
First tooth in each quadrant	3.00
Each additional tooth in same quadrant	1.00
(2) General anaesthesia	5.00
Extraction each tooth	1.00
Oral surgery, including impactions and fractures. Detailed report and radiograms are required. Fee will be set by Director.	
(3) Extirpation of pulp, treatment and filling of root canal. Fee will be set by the District Chief of Service—Dentistry.	
(e) Single tooth restorations	
(1) Amalgam (1 surface)	2.00
(2) Amalgam (2 surfaces)	4.00
(3) Amalgam (3 or more surfaces)	6.00
(4) Silicate	4.00
(5) Acrylic	5.00
(6) Inlay or foil, gold (1 surface)	8.00
(7) Inlay or foil, gold (2 surfaces)	12.00
(8) Inlay or foil, gold (3 or more surfaces)	15.00
Crown, gold cast occlusal	18.00
(9) Crown, gold anterior	15.00
Crown, gold repair, including recementation	7.00
(10) Crown Porcelain Jacket	35.00
Crown Porcelain Jacket Remake	20.00
(11) Crown Acrylic Jacket	25.00
Crown Acrylic Jacket Remake	15.00
Recementing inlay or crown	2.00
(f) Fixed Bridges (Attachments as in (e) above)	
Pontic (Including soldering to attachment)	
First pontic in each bridge	12.00
Each additional pontic in same bridge	10.00
Repair bridge using new unit (abutment or pontic).	
Regular fee, as above, for new unit plus assembly, solder and recement	
—1 abutment	3.00
—2 or more abutments	5.00
Replace porcelain facing	4.00
Recement bridge	
with one abutment	2.00
with two or more abutments	3.00
(g) Removable partial dentures (attachments as below)	
Base and teeth	35.00
(1) Clasp, gold, wrought, with rest	5.00
(2) Clasp, gold, cast, with rest	6.00
Bar, stainless steel	4.00
(4) Bar, gold wrought assembled	10.00
(4) Bar, gold cast assembled	18.00
Extension to replace extracted teeth	
First tooth	5.00
Each additional tooth	1.00
Remake partial denture (using teeth and attachments of present denture)	30.00
Reline partial denture	15.00
(h) Complete Denture	
Upper or lower, each	50.00
Upper or lower Remake (using teeth of present denture)	45.00
Upper or lower, Reline or Rebase	20.00
(i) Repair Denture, partial or complete	
Base only	5.00
Each tooth replaced, add	1.00

Explanatory Comments and Specifications for Dental Operations

(NOTE) Letters refer to similar cross reference letters on fee table.

(a) Dental surgeons before making an authorized examination will remove such calculus or debris as is necessary to permit making an accurate diagnosis and report. No additional fee may be claimed for this service.

(b) (1) A prophylaxis will be interpreted as the removal of calculus plus the polishing of the teeth and is authorized only when no morbid changes requiring periodontal treatment are anticipated. It may not be construed as an ad-

- ditional fee to that authorized for other periodontal treatments.
- (b) (2) A maximum of four periodontal treatments will be authorized at one time, unless it is obvious that a more extended course of treatment is necessary. In these cases, a progress report will be submitted to the District Chief of Service—Dentistry with a request for extended authorization.
 - (b) (3) Fees for emergency treatment, other than palliative, will be allowed in accordance with fees provided for the respective operations carried out.
 - (b) (4) The fee for pulp caps will be allowed only when there is actual pulp involvement and where there is a reasonable chance of pulp preservation. A recognized pulp capping material will be used.
 - (c) (1)-(4) Radiograms will be authorized by the District Chief of Service—Dentistry when required as an aid in diagnosis. Films which are distorted, or which fail to show sufficient area to be of value as an aid to diagnosis, or which are not clearly marked with the name and number of the patient and the date will not be accepted or paid for.
 - (d) (1) Extractions will ordinarily be made under local anaesthesia. Extractions without an anaesthetic should not be undertaken unless at the patient's request. The maximum fee for extractions in any case will not exceed \$30.00.
 - (d) (2) General anaesthetics will be authorized only in exceptional cases.
 - (d) (3) Extirpation of pulp and root canal filling will be authorized only in exceptional cases where the District Chief of Service—Dentistry is satisfied that a successful result may be expected. The treatment must be carried out by a capable operator using a modern standard method.
 - (e) Note: The use of rubber dam in the insertion of all fillings is advocated.
 - (e) (1) (2) (3) Cavities to be filled with amalgam will have, where indicated, a protective base against thermal shock inserted at no additional charge. All fillings must be properly contoured, have a correct contact point, and must have grooves and cusps carved to occlusion. The maximum fee for amalgam fillings in any one tooth surface will not exceed \$2.00, nor will the maximum fee for amalgam fillings in any one tooth exceed \$8.00.
 - (e) (4) (5) Teeth to be restored with silicate or acrylic will have the pulpal wall protected with radiopaque material impervious to the filling ingredients at no additional charge. The maximum fee for such restorations for any one tooth will not exceed, for silicate \$8.00 and for acrylic \$10.00.
 - (e) (6) (7) (8) Gold used for inlays and abutments will be of approved A.D.A. metallurgical standards. Inlays not used as bridge abutments will be authorized only for the six anterior teeth, upper or lower, where the incisal edge or angle is involved. (For R.C.M. Police members, inlays may be provided for the eight anterior teeth, upper or lower.)
Inlays for posterior teeth may not be authorized except for use as bridge abutments.
 - (e) (9) Biting surfaces of crowns must be heavily reinforced with 18 K. solder.
 - (e) (10) (11) Jacket crowns may be authorized by the Director where they are indicated and indispensable for the preservation of the vitality of teeth.
 - (f) Fixed bridges may be authorized for replacement of the six anterior teeth, upper or lower, except in the case of R.C.M. Police members where eight anterior teeth, upper or lower, may be replaced by this type of restoration.
 - (g) Partial denture, either arch, may be authorized only where three or more artificial teeth are used in its construction.
 - (g) (1) (2) All clasps must grasp opposing convex surfaces (double arm) and have a rest to prevent gingival displacement.
 - (g) (2) (4) Cast clasps and bars will be authorized only where anatomical or occupational conditions demand their use.
 - (g) (3) (4) Gold bars must be of approved A.D.A. metallurgical standard and not what are commonly termed "gold cast" bars.
 - (g) (h) (i) In the construction of removable appliances, a recognized and accepted dental technique will be followed. Recognized brand materials and teeth of highest quality only will be used.

NEWS FROM THE PROVINCES

MANITOBA

Well, it's all over so far as we are concerned for another six years. **The Western Canada Dental Society's Convention of 1951** was outstanding in one respect at least, it started sharply on time as per schedule, and practically all the events on the program started on time.

The Convention Committee, headed by Dr. "Pat" Riley, had been working for months with two objects in view, the prevention of dental caries for our children, and starting the Convention every day on time. We succeeded in the latter object, and the success of the first object we have to leave to the future. We said in our first letter we hoped to refurbish our shelves with the latest wares, and they are all centred around prevention.

Dr. Hermann Becks of San Francisco, Dr. Ralph E. Ireland of Lincoln, Neb., Dr. Karl W. Bruce of The Mayo Foundation, Dr. W. J. Simon and Dr. F. M. Schaffer of the University of Minnesota, and Dr. LaMar W. Harris of Chicago, were the principal speakers and clini-

cians, and were all we expected them to be; which proves that our Speakers' Committee are pretty good pickers of talent, that is why they were the Speakers' Committee. The guest speakers at the three luncheons were also in the first rank as after dinner speakers; they included Mr. W. G. Coventry, United Kingdom Trade Commissioner for the Prairie Provinces, Mr. Geo. E. Trafton, the recently acquired Coach of the Blue Bombers, and Dr. Ireland.

One of the unexpected happenings was a visitation by a troupe of entertainers under the guise of the Calgary Stampeters, with the ten gallon hats and the usual costumes associated with them, who broke in on the speech of Mr. Trafton when he was telling how good the Blue Bombers were. It took the Mayor of Calgary, who was one of the troupe, to smooth out the hubbub caused by their entrance, and when he finished his explanation he had succeeded in his object of advertising the Calgary Rotarian Club. He even had in his troupe the Pastor of Westminster United Church, who had

been a member of the Rotarian Club in Calgary.

The ladies' Hostess Committee went all out in their efforts to give their guests a good time, and from all accounts were highly successful in their endeavours.

The highlight of the Convention was the President's Dinner and Ball, which filled the main dining room of the hotel to capacity, and everybody seemed to enjoy to the limit the efforts of Professor Tweedie to entertain with his Scotch humour and to impress upon us our duty to live up to our reputation as good citizens of Canada.

The attendance of the dental profession was approximately 33 per cent of the registered dentists of the three provinces. It would have been higher than that if the Pacific Coast Dental Organization had not selected the month of June for their annual gathering, as a number of our far western dentists had already decided to go there. Altogether it was a highly successful Convention, and the Manitoba dentists are proud to have lived up to what was expected from past conventions held in Winnipeg.

The officers of the Western Canada Dental Society for the next two years are: President, Dr. John W. Clay of Calgary, Alberta; Past President, Dr. A. R. Hurst of Brandon, Manitoba; 1st Vice-President, Dr. L. D. Haselton of Saskatoon, Saskatchewan; 2nd Vice-President, Dr. W. J. Riley of Winnipeg, Manitoba; Secretary, Dr. John Neilson of Edmonton, Alberta; Treasurer, Dr. Philip Kendall, also of Edmonton, which city was chosen as the place for the 1953 meeting of the Society.

J. F. M.

ONTARIO

The Ontario Dental Association Convention is an event which nearly one half of the dentists in Ontario attend each year. Its program provides stimulation, information, entertainment and good fellowship for all who attend. This year the genial "Dewey" McKerracher, the president, from Ottawa Valley way, together with his council provided the usual interesting meeting.

On Sunday evening a high class concert was given by members of the Royal Canadian Opera Company—Miss Doreen Hulme, Soprano; Mr. Dirk Keetbaas, flutist; Miss Margaret Stillwell, Contralto; Mr. Jon Vickers, Tenor; Mr. Earnest Adams, Baritone, and Mr. John Coveart, accompanist. This Musicale was excellent and it won much high praise by those who came in goodly numbers to enjoy it.

The Dental Public Health Council of Ontario held its usual breakfast meeting and was addressed by Col. E. A. Baker,

managing director of the Canadian Institute For The Blind. Dr. R. H. Ferguson of Kitchener presided at the meeting. The new president for 1951-52 is Dr. Bruce Johnston of Barrie.

Perhaps the luncheon speaker on **Public Relations** sparked the most interest of the entire meeting. Using as the title for his speech, "THIS MAY HURT A LITTLE", he proceeded to tell his dental audience what their public thought of them. Only 7.8 people said they would choose dentistry as a career for themselves or their children. Then people said dentists' fees were too high and placed \$2.24 as a fair fee for a filling. Dentists too do not take enough time with their patients, they are always too hurried; then too it is very difficult to get an appointment with a dentist. In telephone manners the dentist is brusque, curt and unfriendly. Indeed it was stated that about 6.3 of all men enjoyed friendly relations with their dentist; however the ladies did sufficiently better to raise the per centage to 25.

Judging from the comments after the luncheon, reactions varied, but on the whole a consistent comment was something like this—"Well I suppose if the cap fits any of us we should put it on—Our patients will judge us as we deserve". However if the speaker set out to arouse dental opinion about some types of public relation surveys he succeeded.

Dr. G. Edward Hall, President of University of Western Ontario, was luncheon speaker on the second day of the convention. Announcing the title of his message he said — "**Dental Health in Public Health**" — that is the subject of my address to-day. Does it have meaning? I am sure it has. It has if we can look at the whole picture without too much bias; it has if we can look at it as a matter of national concern; it has if we can look at it from an educational point of view; it has if we will permit ourselves to face facts; it has if we recognize that 'public health is people'".

Dr. Hall felt there were not enough dentists to supply the need or demand for dental health care to the people of Canada. Moreover he stated the approach of training more dentists to provide more personnel to do reparative dentistry was not the positive approach for better dental health. Dentists he emphasized must be educated rather than trained specifically to deal with ravages of disease. Training suggests a fixed objective while education is directed toward a moving one, keeping pace with progress of science. Both medical and dental teaching must be directed toward education rather than training. Otherwise the effectiveness of our schools in establishing and maintaining the health of our

citizens will be compromised by the pressure of mediocrity. (The complete text of Dr. Hall's address will appear in this journal in early autumn.)

Dr. John A. Bothwell was presented with an honorary life membership in the Association by Dean R. G. Ellis. Dr. Ellis' address in the presentation was thoughtful and deserving and was as follows:

"It is perhaps superfluous to comment on the turmoil, strife and upheaval which surrounds us today. Close at hand, the Toronto Transportation Commission has provided the foreground by transforming Yonge Street into disorder; our personal way of life is threatened by an inflationary spiral; and there is distrust and ill-will among the nations, even to the point of open warfare. We have reason, I submit, to be discouraged. Indeed, if one were a pessimist he could enjoy his misery, and live in despair.

"However, there are some bright shades in the picture. At this time of the year, Spring presents ample evidence of new life and hope. In addition, you will find many interesting and stimulating personalities when you get out among the people. One of these is our guest of honour today, Dr. John Alexander Bothwell. I could recite many dates and details relating to Dr. Bothwell but I shall attempt to summarize these and present them as interesting facets of his life's work.

"His contributions to organized dentistry have been high-lighted by the offices he has held, such as Secretary of the Toronto Dental Society; President of the Toronto Academy and Ontario Dental Association, Chairman of Advisory Committee of Canadian Dental Association and his long service with the Benevolence Committee of the latter Association.

"In education, the historian records that he was a member of the staff of the Faculty of Dentistry, University of Toronto; Director of the Dental Service of the Hospital for Sick Children; President of the Dental Alumni Association; and President of the University of Toronto Alumni Association. He served his country during World War II, holding the rank of honorary major in the Royal Canadian Dental Corps, as an instructor in the army dental training school.

"Dr. Bothwell's interests have not been confined to his profession alone. As a member of the Knights of the Round Table, and of several Orders in Masonry, and as an Elder in his Church, he has devoted much of his time to his intellectual and spiritual welfare, and to the service of mankind.

"While the many contributions he has made in life are important individually, it is the pattern—the philosophy—of his life to which I would direct your atten-

tion. There is abundant evidence of his willingness to serve others; his ability to give leadership; his enthusiasm for the task at hand; a friendliness which has pervaded his efforts. These characteristics are reflected in his achievements, just as light which is diffracted by the many facets of the diamond gives brilliance to the jewel.

"Dr. Bothwell has been honoured on many occasions previously. He has brought honour to his profession, and it is fitting that we seek to honour him again by conferring on him an honorary life membership in the Ontario Dental Association. We wish for Dr. Bothwell many years of good health and good fellowship within the dental profession."

The Educational Program of the convention followed the usual pattern of guest essayists, lecture clinicians and table demonstrations. Those who gave of their time and ability to provide so much in the way of information deserve the gratitude of all members. To mention any one without mentioning all would be unfair, so suffice it to say that the progress of dental science is reflected in the splendid presentations given at this meeting.

The new president of this association is Dr. Wm. K. Prendergast. His fellow officers are: Hon. President, Dr. McKerracher; Pres. elect, Dr. R. Woods, Watford, Ont.; Historian, Dr. G. V. Morton, Toronto, Ont.; Board of Governors, Drs. W. D. Clark, Hamilton; J. A. Boyd, Stratford; L. R. Braden, Ottawa; J. H. Johnson, Toronto; H. R. Baleman, Toronto; and C. L. Strachan, London.

The introduction of **Fluoride Salts** into the drinking water of **Oshawa** has been approved by the City Council, the Public Utilities Commission, the Local Board of Health, the Oshawa Dental Association and the staff of the General Hospital. This plan will be put into operation as soon as equipment can be obtained.—Oshawa Times-Gazette.

Dr. W. G. McKay of Galt has retired from active practice. In a tribute published in the Galt Evening Reporter, Dr. McKay is referred to as "the tall, friendly, dentist who has the longest public service record of any living Galtonian and is the only mayor in the history of the city to be elected four times by acclamation." Dr. McKay has completed fifty years of practice in which he served the people of Galt. He graduated from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1901. He entered the public life of Galt in 1910 as a member of the School Board. He served for eight years, two

of them as chairman. In 1919 he was elected to Council and has served almost continuously until 1945. He was mayor in 1927,28 and again in 1939,40,41 and 42. He served on nearly every council committee and as chairman of all except one.

On retirement from public life Dr. McKay was tendered a civic banquet by his fellow townsmen. He was presented with a fine gold watch as a token of the city's appreciation of his services. Among the many tributes paid him on this occasion, none were finer than that of the present mayor of Galt, Mr. R. K. Serviss; he said "Seldom in any city will you find a man who has served his community so well. Seldom has any finer contribution been made to any city."

Dr. McKay is a prominent worker and member of his church—First United Church, Galt; he is active in Masonic and other fraternal organizations.

A closing tribute in the Galt Evening Reporter, "He will be greatly missed from his dental office at 57 Main Street, where he has served so faithfully for so many years," is an enviable tribute. To be great, and appreciated by those around you, those with whom you work and others you serve is a very great satisfaction. Congratulations Dr. McKay for your achievements and best wishes for enjoyment for a well earned holiday.

Dr. C. K. Henderson of Hespeler was recently honoured by the Hespeler Chamber of Commerce at its annual dinner meeting. Presentations were made to the guest of honour and Mrs. Henderson, the occasion being his retirement from active practice after fifty-four years of service.

Dr. Henderson's colleagues in dentistry will join his fellow citizens in Congratulations on his achievements and wish both he and Mrs. Henderson health and happiness for many years.

Gray, Bruce, Dufferin Dental Society held its thirtieth annual field day at Owen Sound on June 13. This is a day when the dentists of Owen Sound are hosts to the dentists of all three counties and others who come for a day's recreation and fun. The program consists of fishing, golf, and a launch party—something for every taste and so well organized that it is a real outing for all who go to Owen Sound for the day.

Dr. J. A. McArthur of Markdale, president of the Society, presided at the banquet table which is always a feature of the day's program. In his presidential remarks he expressed regret that more members of the society did not take advantage of the day and of the society's annual program. In the discussion that

ensued during the business part of the meeting the opinion was expressed by several that the society should be more active and have more meetings. The Royal College of Dental Surgeons provides funds to send two speakers each year, and in the past the meetings addressed by these clinicians from the Faculty comprised the professional program. It was pointed out that there was no reason why the members themselves should not finance perhaps two or three more meetings and thus make the society more interesting for the dentists in the area.

Dr. Clarence Beebe, the member of the Royal College of Dental Surgeons' Board of Directors for the district, gave an excellent informative address of his stewardship and the work of the Board. At the conclusion of the banquet, Dr. George Morgan projected a sound film in colour taken in Mexico; Dr. Milton Bye later showed a picture of the Rugby final for the Gray Cup last autumn.

Prizes for the day were presented by Dr. Harry Legate, assisted by Dr. Bob McKee. Those awarded for golf were—Low Gross; Dr. R. W. Marshall and Dr. M. P. Hawton, tied; Low Net: Mr. Jack McTavish and Dr. F. McDonnell; prizes for most fish went to Dr. George Morgan and Dr. E. W. Downton.

The new Executive for 1951-52 are:

PRESIDENT Dr. E. W. "Bob" Sadler
VICE PRESIDENT Dr. D. C. Sudden
SEC-TREASURER Dr. W. J. Lackaberry

DIRECTORS

Dr. W. Bruce, Kincardine, Ont.; Dr. G. H. Stewart, Thornbury, Ont.; Dr. E. J. Weiler, Mildmay, Ont.; Dr. J. C. Guthrie, Port Elgin, Ont.; Dr. E. L. Hardman, Wiarton, Ont.; Dr. D. M. P. Hawton, Collingwood, Ont.

QUEBEC

The Montreal Endodontia Society held a dinner at the Mount Royal Hotel on May 18, in honour of **Dr. Louis Grossman**, University of Pennsylvania. Dr. Grossman was in Montreal as guest clinician for the senior students of the dental school at McGill University.

After dinner, Dr. Grossman spoke on the trends of caries control. He showed statistics on the encouraging results being obtained in the various cities in the United States and Canada by means of fluoridation of the water supply. In all these cities caries reduction of the children under survey was about 50%.

The topical application of fluorides to children's teeth applied with the Knutson technique also showed gratifying results. A general reduction of caries of around 40% was obtained in controlled tests.

The speaker pointed out that teeth

which were very susceptible to dental decay were found usually in individuals who ate foods of high fermentable carbohydrates and low protein content. Caries could be controlled to a large extent in these individuals with a controlled diet. However, if this was not practicable, the intake of fermentable carbohydrates should be kept to a minimum.

Dr. Grossman also stated that the therapeutic dentifrices containing penicillin had shown under tests a result of 40-45% in caries reduction. However, the therapeutic effect of the ammoniated dentifrices was exaggerated and experiments did not substantiate the claims made by commercial advertisements.

Dr. Grossman emphasized the importance of discussing methods of caries prevention with the parents of young patients. Besides the educational factor, the cooperation of the parents was needed to further our efforts to reduce dental decay.

The president of the Montreal Endodontia Society, Dr. Walter S. Phelps, presided at the meeting.

G. Zimmerman.

The second annual Staff Dinner Meeting of the **Faculty of Dentistry, McGill University**, was held on May 21, in the Faculty Club, Montreal. With 45 members of the staff in attendance, the meeting was under the chairmanship of Dr. W. C. Bushell, Professor of Prosthetic Dentistry. Prof. Bushell announced that Dr. W. G. Leahy, ever popular Director of the clinic had been appointed to full Professorship. He also announced that The College of Dental Surgeons of the Province of Quebec has seen fit to change the name of its prize to the leading student of the final year to the *J. K. Carver Prize*.

Other appointments and announcements presented by Dr. Bushell were:—

Dr. J. W. Abraham has been made Vice-President of the C.D.S.P.Q.,

Dr. A. G. Racey appointed as Quebec representative of the C.D.A. and

Dr. W. F. Walford made a Governor of Dental Surgeons of the C.D.S.P.Q.

Dr. Bushell then introduced the new members of the staff.

Thanking his staff for their fine cooperation during the past year Dean D. P. Mowry briefly reviewed the year's progress and concluded with a number of recommendations, which he felt, could advantageously be put into practice:—

More full time teachers are required.

More time should be given by each demonstrator, but with an increase in compensation — a move started by his predecessor, Dr. Walsh.

A Medical-Science Building should be built in which should be incorporated the whole Faculty of Dentistry.

The present large part-time staff should be kept—even increased.

The Dean urged the staff to subscribe to and devote time to the studying of the *Journal of the American Assoc. of Dent. Schools*. In closing, he announced that a grant from the National Research Council had been obtained by the Department of Oral Pathology for Dr. E. Gill under the supervision of Dr. Racey.

At the request of the chairman, a number of reports were presented.—

Dr. J. McCutcheon reported on the Annual Meeting of the American Association of Dental Schools and stressed the invaluable work being carried out by that organization.

Dr. W. F. Walford presented an encouraging report on the new clinic to be constructed as part of the new Montreal General Hospital and announced that a 35 chair clinic has been authorized with room for expansion in the future. He also praised the work of his committees, in particular Dr. Potter, whose photographic presentations were of utmost value in the presentation of our requirements.

Dr. D. C. Gordon presented a review of the work of the Operative Department and announced one encouraging change in policy: i.e., the stressing of the Class V Gold Foil Filling, instead of the Class III; this change, he hoped, would encourage graduates to utilize the gold foil where it is most easily inserted and most urgently required.

Dr. E. V. Potter presented a beautiful demonstration with colour transparencies of what can be accomplished in the field of Dental Photography for use in the teaching of Dentistry.

Dr. M. L. Donigan reported on the results of the Manual Dexterity Tests which have been in use for several years now and stated that the results have been most encouraging and apparently give a remarkably accurate indication of the students' ability.

Following a frank discussion of problems by different members of the staff, the meeting came to a successful conclusion with the thanks of all being extended to Dr. Jim McCutcheon for his admirable handling of arrangements necessary for such a successful dinner and meeting.

R. F. H.

The Annual Spring Golf Meet of the Montreal Dental Club was held as usual at Knowlton, Quebec, with 24 enthusiastic golfers, would-be golfers and bridge experts attending. The main feature of the meet, held June 1-3, was the tourna-

ment for the new "Art Walsh Cup for Low Gross" donated to the club by Dr. Art Donohue in recognition of Dr. Walsh's outstanding contribution to the teaching of Dentistry as Past Dean of the Faculty, McGill University. Dr. Walsh presented the cup bearing his name to the perennial champion Dr. Arnold Mitchell.

Taking second prize for low gross was Doug Richardson, with Roger McMahon, Art Walsh and Bob Harvey being also rans. In the Low Net field, Drs. Erwin Burbank and Lindsay Mussells shined and ended in a tie for first place. Following a toss, Erwin was named champion with Lindsay taking second prize. Close behind were George Dundass, Howie Boyles and Art Donohue.

Although everyone seemed to win a prize, a special booby prize was presented to Paul Rowe of Cowansville, late of Montreal. Having won the Low Net prize in 1950, Paul was so sure of winning again that he didn't bother to bring the cup along with him this year. However, after being properly put in his place, he procured the trophy in time for the presentations.

The week-end was highly successful and the majority returned home feeling sure that it is just a matter of time before someone defeats Arnold Mitchell—about ten or twenty years—for he slipped badly requiring 80 strokes to navigate the 18 holes. . . R. F. H.

Dr. Eudore Dubeau visits Europe: During Dr. Dubeau's last trip to Europe, he had the privilege of attending a reception given to the official delegates of the F.D.I. by the President of France at his official residence, the Elysée Palace.

Dr. Dubeau was founder of the Dental Faculty of the University of Montreal in 1904 and is the only one still alive of the founders of the F.D.I. in 1900. He hopes to attend the International Dental Congress in London in 1952.

M. H. G.

NOVA SCOTIA

The Halifax County Dental Society met on April 5, at the Nova Scotian Hotel, Halifax, when the speakers were Dr. O. L. Croft and Dr. J. P. McGuigan, who reported on their recent courses of postgraduate study under the Kellogg Foundation.

The final meeting of the Society for the winter season was held on May 3. Dr. H. C. Read, Provincial Haemotologist, was the guest speaker and gave a most instructive lecture on "Haemorrhagic Conditions." This was followed by an informative question period which was

indicative of the interest aroused in the subject.

The annual election of officers was also held during this meeting with the following slate being adopted for the coming year: President, Dr. A. H. Ervin, Dartmouth; Vice-Pres., Dr. J. R. Vaughan, Halifax; Sec.-Treas., Dr. C. E. Dexter, Halifax; Exec. Mem., Dr. K. A. Kerr, Bedford; Auditors, Dr. R. F. Cameron, Dartmouth; Dr. G. A. Chudleigh, Halifax.

NEWFOUNDLAND

Newfoundland Dental Clinic: A floating dental clinic, first of its kind in Newfoundland, is the new home of Dr. Kenneth Pownall and his bride of June 9, the former Nora Cumberland, both of Toronto.

Dr. Pownall serves as first dentist to staff the Canadian Junior Red Cross "dental ship" which spearheads a drive for improved dental health in Canada's 10th province. His wife, a qualified public health nurse, serves as his assistant. Dr. Pownall was graduated this year from the Faculty of Dentistry, University of Toronto.

His floating clinic is part of a new dental program by which the Junior Red Cross hopes to promote improved dental health, better nutrition and better health generally for children of Newfoundland, Juniors of Newfoundland, Quebec and Ontario raised more than \$16,000 for the project.

During the summer months the clinic will tour the Bonne Bay-St. Barbe coast in the northwest Peninsula in a ship contributed by the Newfoundland Department of Education. It is complete with portable dental equipment, a portable generator for power, motion picture projector and educational films.

In the winter months, the project will take to a snow-mobile with Dr. and Mrs. Pownall operating from a base clinic at Bonne Bay College Hospital, Norris Pointe. Approximately 2,500 children in the area will be served.

Red Cross Juniors chose the dental program as a project on learning that no dentist practises in this area. It is anticipated that the new clinic, afloat and ashore, will demonstrate the importance of dental care and it is hoped that eventually the community will be able to employ their own resident dentist for this area.

BRITISH COLUMBIA

At the annual meeting of the **Vancouver and District Dental Society**, held at Hotel Vancouver on May 1, dental educational programs were set aside in favour of good entertainment and enjoyment.

The guest speaker was Mr. Howard Coulter, Vancouver barrister, who is a well-known and a much favoured after dinner speaker. He spoke on his personal experiences as a member of the Canadian Infantry Intelligence Corps.

Following the usual reports of the President and Treasurer, and Program, Membership, Publicity and Golf Committees chairmen, the various study clubs gave a résumé of the year's activities.

The election of officers resulted in the choice of Dr. J. M. Wark as President-elect, and Dr. Eric Nordin as Secretary-Treasurer. Directors for a two year term were elected in the persons of Drs. Charles M. Whitworth and D. H. Warren.

Past President Dr. W. D. MacLeod, with a few appropriate remarks, presented the gavel to the retiring President, Dr. C. R. Hallman, emphasizing his splendid services to the Society during the past year.

Dr. H. L. Purdy, new President of the Society, was introduced to the meeting by the retiring President.

The slate of officers, and members for the executive committee, presented by the nominating committee at the annual meeting of the **Victoria and District Dental Society** was accepted unanimously by the meeting, and resulted in the following appointments:

President, Dr. R. H. McDougall; Vice-President, Dr. S. R. Richardson; Secretary-Treasurer, Dr. B. Kjekstad; Executive Committee, Drs. H. Clark, R. Loudon, and R. H. Tryhall.

A cocktail party was held prior to the dinner and the business meeting.

Report from the Council of the College of Dental Surgeons of B.C. was presented by Dr. A. Poyntz. The member of the Research Council, Dr. R. H. MacDougall, reported on the activities of the Council, giving particular emphasis to the findings of the Council on Self-Curing Plastics.

Dr. Kjekstad presented the prizes for the golf tournament held at the Royal Colwood Golf Club on May 6. Cups were presented to Drs. Calvert, MacDonald, Turner and Miles.

Following the business meeting Dr. R. H. MacDougall introduced the guest speaker, Dr. Frank McCombie, Acting Director of the Division of Preventive Dentistry of the Department of Health and Welfare of the Province. Dr. McCombie's subject was "A Challenge to the Dental Profession of British Columbia."

A recent report from the **Division of Preventive Dentistry of the Province of British Columbia** reveals that considerable success is attending the development of the dental health programs in the Province.

Thirteen communities, outside of metropolitan areas, have successfully organized local dental programs, whereby local resident dentists are treating children of their area in their own dental offices. The Division of Preventive Dentistry has made grants to the extent of 50 per cent of the total remuneration paid to the dentists doing this work, in accordance with the provisions outlined in a recent article in the *Journal of the Canadian Dental Association*.

Twenty-two School Boards, with the approval of their respective city and municipal councils, have included in this year's school estimates the necessary request for funds to cover their share of the cost of appointing a dental director within the staff of their local health units.

Numerous applications have been received from dentists who wish to join the staff of the Division. From these, suitably qualified men have been selected to fill the positions of dental directors of several local health units.

Dr. Hall, who has served with Dr. McCombie on the staff of the Division in organizing dental health programs, and in developing suitable equipment for travelling dental clinics, will return shortly from the University of Michigan, where he has been taking postgraduate study in Dental Public Health and Children's Dentistry. Dr. Hall will probably join the staff of the South Okanagan Local Health Unit, as Dental Director.

The **Department of Health and Welfare** has adopted a non-committal attitude on the question of fluoridation of public water supplies. The Department has made the following announcement:

"In communities where a strong public demand has developed, and the procedure has the full approval of the local medical and dental societies, the local health authorities, and others responsible for the communal health, applications may be made to this Department for permission to fluoridate public water supplies."

At a recent session of the Legislature of the Province, some **Amendments to the Dental Act** were presented and passed.

A revision in territories of interior areas was made, resulting in the provision for one additional member of the Council to be elected to represent the increased dental population of these areas.

Various changes were made, in relation to qualifications for, and conditions affecting the licensing of persons to practise dentistry in the Province.

A new section gives the Council power "to pass rules, regulations and by-laws

to govern an auxiliary body to be known as Dental Hygienists.

The Council has been given power to join a National Examining Board, should such a body be put into effect by the Canadian Dental Association.

In all, twelve sections of the Act were amended, and the Council expresses satisfaction with the results.

•
Another large class of candidates for admission to practise in British Columbia will appear before the examining board at the June sessions. It is expected that over thirty individuals will try the examinations.

•
The Paedodontia Study Club of the Vancouver and District Dental Society featured the annual spring clinic meeting of the **Interior Dental Society**. Members were present from all parts of the Okanagan Valley, and the response to the presentation of the study club was more than gratifying.

At the morning session, three chair clinics were given—one on the application of the Rubber Dam to Children's Teeth, by Doctor Waterman; one on Cast Space Maintainers, by Dr. Lorne Lind, and one on Preventive Orthodontia, by Dr. Dick Cline.

In the afternoon, one table clinic on Fractured Anterior Teeth was presented by Doctor Fraser, and three chair clinics

were given as follows: Class 2 Amalgam filling, by Doctor Waterman; Class 2 Amalgam filling, by Doctor Lind, and Vital Pulpotomy, by Doctor Hastings.

Three complete sets of equipment, designed and manufactured by and for the Division of Preventive Dentistry of the Department of Health and Welfare of the Province, were loaned for the occasion by the Division. Many compliments have been heard on the efficacy of this equipment for the purpose intended—that of travelling dental clinics, and they have already proved their worth on numerous occasions, among which are included visits to outlying areas on the more isolated parts of the coast, and on islands off the coast.

L. G. R.

SASKATCHEWAN

Dental Hygienist Bursaries Offered:

Six bursaries valued at \$1900 each are offered by the Saskatchewan Department of Health for dental hygienists training in the 1951-52 school year.

The prime reason for offering the assistance to Saskatchewan students is that the shortage of graduate dentists makes it imperative to train and utilize auxiliary personnel wherever possible.

The bursaries are made possible through a federal government grant of \$6,537 for assistance in training students in courses leading to the dental hygienist diploma.—Saskatoon *Star-Phoenix*.

BRITISH COMMONWEALTH NEWS

GREAT BRITAIN

The Demand for Artificial Dentures:—

When the State assumes all responsibility what do we find? The answer is in the present financial situation of the Health Service. No one loves tax-gatherers or those who spend the gathering, and this understandable sentiment has been noted from earliest historical times. When the taxpayer sees an opportunity of getting back something tangible instead of nebulous services, the temptation to get what he can is great. This is one reason why the demand for artificial dentures is so high.

Here is the root of the trouble. If the patient had to pay even a token amount towards his treatment and appliances, various beneficial effects would follow. He would regain some of the control he has now lost: the tune is still called by the one who pays the piper. He would have a greater interest in the care of an appliance. He would be less likely to demand something that was not really necessary. He would act as a brake upon quickness of treatment.

The Profession knows, and the Ministry ought to know, that in general the larger incomes are not earned by the better practitioners. If instead of penalizing the honest practitioner by reducing the fees by 10% the Minister were to put a charge upon the patient of 10% the cost of the Health Service would go down and the standard of treatment rise. The only thing lost would be an ideological concept which has not stood the test.—From Editorial in *Dental Record*.

The Charge for Dentures:—

The Budget announcement that a charge was to be made to patients in respect of dentures supplied under the National Health Service was rapidly followed by the introduction of a Bill to make the necessary alterations to the principal Acts. This was given a Second Reading on April 24. The charge for full upper and lower dentures is fixed at £45s., those for partial dentures are respectively £2 for a denture of 1 to 3 teeth, £2 5s. for one of 4 to 8 teeth and £2 10s. for

one carrying 9 or more teeth, with an overriding maximum of £4 5s. in respect of any two dentures. Although the Bill does not specifically lay it down that the

charge is to be collected by the dentist, there seems no doubt that this unwelcome procedure will be adopted.—Br. D. Jour., May 1951.

GENERAL NEWS

A reexamination of the traditional manpower ratio of two dentists for each 1,000 men in the armed forces in order to protect the dental health of the nation was recommended in *The Journal of the American Dental Association*.

Citing anticipated increased demands on dental manpower to meet military, civil defense and civilian population requirements, a *Journal* editorial quoted a report of the Health Resources Advisory Committee of the National Security Resources Board which warned of "a serious threat to the health and welfare of our people."

The report also questioned the ratio of two dentists for each 1,000 military personnel as "a permanent minimum necessity" and further questioned "that there are sufficient dentists available to supply these needs without serious disruption of other essential categories."

"Whether this is an equitable ratio no one, including experienced military officials, now knows," the editorial said.

"Perhaps an unbiased study will disclose that, by limiting dental officers' assignments to professional duties, curtailing their service to military dependents and relieving them of administrative responsibilities not connected with their professional calling, the dental manpower requirements of the military services could be reduced without lowering the quality or quantity of service." The editorial added:

"Certainly the dental needs of the military must be thoroughly met. So, too, must the dental needs of those on the home front. To accomplish this dual purpose with the limited dental manpower available will require the closest cooperation between federal authorities and Association leaders."

New York City Excise Tax for Dentists — An excise tax is levied for the privilege of carrying on or exercising for gain or profit within the City of New York any trade, business, profession, vocation or commercial activity during the period commencing July 1, 1950 and ending June 30, 1951, or any part thereof. The tax is computed on the gross receipts for the base period (measuring period) set forth in the law.

A dentist is required to file a return and report the gross receipts (gross fees)

from the practice of his profession. In reporting gross receipts, no deductions may be taken for salaries, rent and other office expenses. This year the tax is to be computed at the rate of 1/3 of 1 per cent which is the same rate in effect last year.

The theory that smoking is a factor in gum disease was advanced by a Danish dental scientist in *The Journal of the American Dental Association*.

Dr. J. J. Pindborg, of Copenhagen, who conducted examinations of 9,577 men in the Danish armed forces, reported that Vincent's infection, characterized by painful ulcerated bleeding gums, was found principally among smokers. The prevalence of the disease among soldiers during World War I gave it the name of trench mouth.

Findings indicated that the gum disease attacks smokers seven times as frequently as it does non-smokers, Dr. Pindborg said. He is an official of the National Dental College of Denmark, the Danish National Health Service and the medical corps of the Royal Danish Navy.

He reported that Vincent's infection was found among 6.9 per cent of the 6,960 sailors when they entered the navy and the frequency rose to 19.6 per cent after some months of service. For new soldiers, the incidence was 5.5 per cent, rising to twice that percentage after preliminary training.

"The explanation is, in all probability, that sailors and soldiers are under more efficient supervision as regards both general and personal hygiene while undergoing the preliminary training," Dr. Pindborg said.

Dental Education — Columbia University has won a five-year fight with the American Dental Association for approval of its plan to integrate the teaching of dentistry with that of medicine, public health and nursing, Dr. Willard C. Rappleye disclosed February 16. Dr. Rappleye, who is a vice-president of the university and dean of the medical faculty, announced that the American Dental Association had ended its blacklisting of Columbia's dental school and put it on the list of thirty-four "accredited" dental schools. Columbia's School of Dental and Oral Surgery was disapproved by the

dental association in 1945 . . . The American Dental Association then held that the man in charge of a university's school of dentistry should be a full dean and that he should not be under the direction of a medical doctor. Since 1945 Columbia's dental graduates could not legally practice in Connecticut, Pennsylvania, Illinois, Maine, Vermont, New Jersey and the District of Columbia and possibly in other states in which only a graduate of an A.D.A. accredited institution could be licensed . . .

Dr. Rappleye emphasized that Columbia believed that the training of physicians, dentists, nurses and public health workers could most effectively be carried out with close integration between the courses of study. Dentists at Columbia now are teaching in the curricula of medicine, nursing and public health, he noted.

Dr. Maurice J. Hickey said that the result of Columbia's plan to integrate medical and dental teaching had been to increase the awareness of medical students as to the function which dentists perform and to give dental students a knowledge of how they can work with physicians . . . Group approaches to dental-medical problems have frequently been undertaken by Columbia researchers under the integrated program, said Dr. Boaz M. Shattan, a member of the dental faculty. He added that they might not be possible if dentistry and medicine were kept separate.—*N.Y. Times*.

Legal Recognition of Dental Laboratories—Organized Dentistry in New York State has had to devote much time and effort to defend for the ninth time the laboratory sponsored registration and licensing bill.

Plans are already underway to make a tenth attempt to secure legal recognition in 1952.

Accreditation activities are now progressing in all ten District Dental Societies. Dentists and laboratories have been contacted and requested to cooperate with organized dentistry. Laboratory owners have been informed about the benefits to the industry provided in the accreditation plan and have been invited to send in their applications.

The Chairman of the Prosthetic Committee on Laboratory Relations, Tenth District Dental Society reports that the Society has taken official action to bar dentists from sending patients to laboratories for matching shades or for any dental service whatsoever.

Ziskin Memorial Research Laboratory:—This Laboratory has been dedicated to the memory of Daniel E. Ziskin,

D.D.S., 1895-1948. In 1945 he became professor of dentistry in the Faculty of Medicine, Columbia University, and in 1947 accepted the duties of Chairman of the Division of Periodontia. He had an international reputation as a teacher and research worker and human suffering will be alleviated because of the knowledge he made available.

Vitamin A:—In the British Medical Journal of May 19, Z. A. Leitner, M.D., advocated supplementing the routine treatment in the acute stage of rheumatic fever with 40,000 to 50,000 i.u. of vitamin A daily, also that the same dose should be administered in pregnancy complicated by infection or fever, especially during the first trimester.

This address was given at the Vitamin A Conference of the Nutrition Society in Liverpool.

Dental Fees for Cleft Palate Rehabilitation in Ohio:—It is reported in the May issue of the Journal of the Ohio State Dental Association that the fees decided upon for dental service for crippled children are as follows (quoting just a few):

Prophylaxis	\$5.00
Periodontal Treatment (per visit)	5.00
Vincent's Infection	

A. Microscopic Examination	3.00
B. Initial Treatment	5.00
C. Subsequent treatments (limit 3)	4.00
Alloy fillings	
1 surface	4.00
2 surface	7.00
3 surface	10.00
Silicate or plastic fillings	5.00
Cement base and cavity lining	1.00
Crowns	
Porcelain jacket	40.00
Acrylic jacket	40.00
Reinforced jacket	45.00
Fixed Bridges	
Abutments	24.00-35.00
Pontics	20.00-25.00

Fluoridation of Water Supplies:—Dr. Thomas J. Hill comments on this subject in the May issue of the Journal of the Ohio State Dental Association, in part, as follows:

For a number of years we have been conscious that the naturally occurring fluoride in water supplies has resulted in a decrease in dental caries. In order to establish that this was the direct result of the fluorine ion it was necessary to create a similar condition by the addition of fluoride salts to water supplies free from fluorine.

There are two things of interest to the profession and the communities that are contemplating such procedures. Dr. Ast in his recent report at Atlantic City com-

pared the two cities of Newburgh and Kingston and showed that while the amount of new caries in Newburgh had been reduced by one-third, the amount of dental work performed by the profession in both cities was essentially the same. It suggests that the amount of service performed in these two cities is not in relation to the amount of need but rather is in proportion to their economic ability to have dental service performed.

The other thoughts which the dental profession should very carefully relay to their patients or to the health authorities interested in fluoridation of water supplies, is, that such a procedure is not the solution to this problem but is an aid which may reduce the amount of needed service to the place where the profession can meet the demand, and that all of the methods which are applicable to the reduction of the incidence of dental caries are as far as diet and mouth hygiene are concerned just as important in fluoridated communities as they are in communities where fluorine is not available.

Fluorinate or Fluoridate or Fluoridize:
—The American Dental Association has received numerous inquiries regarding the correct or preferable term to be used to describe the process of adding fluoride salts to domestic water supplies as a means of preventing dental decay.

The editorial department of the Association has adopted the following usages:

1. The use of the terms **fluorinate** and **fluorination** for the addition of fluoride to drinking water or for any therapeutic use of fluoride is not permissible.
2. The addition of fluoride to drinking water or to any other substance viewed as a chemico-physical measure is indicated by the verb **fluoridate** and the noun **fluoridation**.
3. The use of fluoride as a therapeutic measure for the prevention of dental caries is indicated by the verb **fluoridize** and the noun **fluoridization**.

Infected Teeth and Systemic Diseases:
—The Journal of the American Dental Association reports that there is little or no scientific evidence to support the theory that infected teeth in themselves are a major cause of arthritis, heart ailments, kidney diseases, eye disorders or skin diseases.

In a special issue devoted entirely to a report on dental foci of infection, The Journal said that countless thousands of teeth have been extracted unnecessarily in the treatment of various chronic diseases.

"Many authorities who formerly felt that focal infection was an important aetiological factor in systemic disease have become skeptical," The Journal said.

"Over the years, close observation of the benefits derived from the promiscuous removal of teeth led members of both the dental and medical professions to question the soundness of the theory."

While stressing the importance of speedy elimination of infections in the oral cavity either by treatment or extraction of infected teeth, the report declared that the extraction of teeth "in the hope of curing a systemic disease is . . . merely clutching at a straw."

The special report was prepared for the American Dental Association by a group of 12 medical and dental scientists working under the direction of Dr. Kenneth A. Easlick of the University of Michigan School of Dentistry, Ann Arbor.

Not only does the available evidence thus far indicate that the extraction of infected teeth has little or no influence in alleviating bodily diseases, but in one of the heart diseases, rheumatic fever, extraction of teeth may be extremely harmful unless special precautions are taken, the report stated.

Except under proper conditions the extraction of teeth from individuals suffering from rheumatic fever may result in subacute bacterial endocarditis, a condition that is often fatal.

It was emphasized that prior treatment with the antibiotics such as aureomycin or penicillin had eliminated almost entirely the danger associated with the extraction of teeth from patients with a history of rheumatic heart disease.

In other chronic diseases, the role of dental infection was found to be completely negligible. The conclusions were:

Arthritis—There is no evidence that crippling rheumatoid arthritis, characterized by swollen, extremely painful joints, is alleviated by the extraction of infected teeth. The favourable response of the disease to ACTH and cortisone and the temporary relief for patients who are pregnant or develop jaundice indicate that the disease has its origin in biochemical phenomena and not in any bacterial concept that would relate to infected teeth.

Similar conclusions were reached for such other diseases as osteoarthritis, traumatic arthritis, gout, psychogenic arthritis, bursitis, fibrositis and other forms of rheumatism.

Kidney Infection—Bacteria from the colon, a portion of the large intestine, have most frequently been implicated in kidney infections and rarely have bacteria been identified which could have

reached the kidney or urinary passages from the root end of an infected tooth. "It is difficult to see how the removal of teeth will alter the course of the disease," the report said.

Diseases of the Eye—It is highly questionable that dental infection is in any way related to eye disease. "It would appear that scientific studies to establish dental focal infection as the aetiological agent in ophthalmic disease are most meager," the report said.

Skin Infections—Of the many skin ailments whose causes were formerly attributed to foci of infection, a number have been found to be manifestations of allergies or the result of other conditions. Noting that the most frequently found organisms in infected teeth are viridans and nonhaemolytic streptococci, the report said: "There appears to be little evidence to link the activity of these two common organisms in teeth with manifestations of disease in the skin."

In a summary, the report pointed out that patients whose teeth are removed often continue to suffer from the original disease for which the extractions were made. It emphasized the importance of cooperation between dentists and physicians in cases of chronic disease.

"Before a decision is reached to extract teeth as a possible treatment for a condition which has not yielded to other treatments, it should be recalled that if the nutrition is important to health and well-being, the preservation of teeth is important too.

"Extraction of teeth can destroy the pleasure derived from eating foods and lead to the selection of foods of low nutritive value. Before dentists extract teeth at the request of an internist who is 'just trying to do something,' it is well . . . (to determine if there is) sufficient evidence to warrant the extraction."

Fluoridation of Water Supply:—Cleveland has approved the fluoridation of its water supply in order to combat dental caries.

Minneapolis authorities are studying plans for undertaking a similar project.

The Elgin-St. Thomas Health Unit in southwestern Ontario is planning to set up a preventive dental service for children of pre-school and school age, financed by a grant of \$8,900 from federal health funds.

It is estimated that at least 90 per cent of the children of pre-school and school age suffer from dental decay,

premature extractions, malocclusion or other remedial condition of the teeth and mouth.

Early last year a survey revealed that eight out of every 10 children examined had decayed teeth when they entered school, and in all age groups past 12 years nine out of every 10 children had decayed permanent teeth. Gingivitis was prevalent in 12 per cent of the children examined.

The survey also showed that rural children are receiving about half the dental care given urban children. Dentists in the area are unable to keep abreast of the actual and potential demand for service.

The staff is to consist of a dentist trained in dental public health, a dental assistant and a clerk-stenographer.—Dept. Nat. Health and Welfare.

Technical Assistance Program in El Salvador:—The Government of El Salvador has signed a basic agreement with the United Nations and five specialized agencies for the establishment of the world's first area to demonstrate the progress that can be made in health and welfare through a comprehensive technical assistance program. The program for the area, in the centre of the Central American republic, will combine projects in public health, agriculture, labour relations, education and social welfare. Health demonstration areas are being set up in Turkey, Peru, Colombia, Chile and Venezuela, but the Salvadorean program goes beyond the scope of these projects to include varied programs for general social and economic improvement in the selected district.

For the rural section of 100,000 population, of which the town of Quezaltepequen of 16,000 population is the centre, a comprehensive public health program has been designed. Its projects include work in environmental sanitation, maternal and child health, nutrition, control of malaria, tuberculosis, venereal disease and other communicable diseases, dental hygiene, laboratory services, health education, general medical care and public health training. The National Government, which has already trained twenty-five public health specialists for the program, will contribute \$200,000 in the first year for health personnel, buildings and supplies. The World Health Organization has allocated \$150,000 for its contribution during the first year. It will furnish technical personnel, equipment, supplies and training fellowships.—N.Y. Times.

IN MEMORIAM

Arthur Edwin Proctor of Winnipeg, Manitoba, aged 65, died May 22. He was graduated from the Royal College of Dental Surgeons of Ontario in 1907 following which he practised in Winnipeg.

He was a past president of the Winnipeg Dental Society. In 1934 he was elected to the Board of Governors of the Manitoba Dental Association; was made treasurer in 1936; vice-president in 1937 and held the office of president from 1939 to 1942.

In 1942 Dr. Proctor was appointed representative of the Manitoba Dental Association on the Dominion Dental Council, later being elected president of this organization. He retired from the Board of Directors of the Manitoba Dental Association in 1947 but continued as Chairman of the Travelling Dental Clinics' Committee of the Canadian Foundation for Preventive Dentistry. He was the administrator of the City of Winnipeg's Dental Welcome Service at the Winnipeg General Hospital. In 1950 he was elected a Fellow of the American College of Dentists.

He was a member of the Kiwanis Club and of St. George's Anglican Church.

Dr. Proctor is survived by his widow, one daughter, two sons, three grandchildren and one sister.

F. Curtis Simms of Edmundston, New Brunswick, aged 54, died on May 19 after several weeks' illness. He attended Acadia University for one year and then went to the Royal College of Dental Surgeons of Ontario, graduating in 1924.

Born at Windsor, Carleton County, N.B., he enlisted in the C.E.F., serving four years in the signal section of the artillery. He won the Military Medal and bar. After graduation in dentistry he started practice in Edmundston where he lived for twenty-eight years. He was

always very active in the New Brunswick Dental Society and was president of the society in 1943.

Dr. Simms is survived by his widow and one brother.

John Roland Hand of Ottawa, Ontario, aged 71, died April 30. He was graduated from the Royal College of Dental Surgeons of Ontario in 1905 and commenced practice in Ottawa.

He was President of the Rough Rider Football Club 1925-1926, also President of the former Shamrock Hockey Club for several years.

Dr. Hand is survived by his widow, one son, one daughter, two brothers and one sister.

James Frederick Worrell, of Saint Andrews, New Brunswick, aged 72, died at his home May 3. He was a former teacher and took up dentistry after a brief teaching career. He was graduated from Baltimore College in 1909, and practised in Saint Andrews for fifty-five years. At one time he was mayor of the town.

Dr. Worrell is survived by his widow, one son and a brother.

Lieut. Hugh Ross Cleveland of Montreal, Quebec, son of Dr. and Mrs. E. T. Cleveland, is reported to have died of wounds received in Korea. He was killed by a mine while leading his men in reconnaissance.

O. A. Lyman of Calgary, Alberta, aged 72, died May 15 following a lengthy illness.

He was a member of Cascade Lodge No. 5 A.F. and A.M. at Banff; Alberta Chapter No. 1 Royal Arch Masons; Cyprus Preceptory No. 33, and the Al Azhar Shrine Temple.

Dr. Lyman is survived by his widow, two daughters, one sister and one brother.

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Les deux côtés de la médaille*

par CHS-EUG. MASSICOTTE, D.D.S., Chicoutimi

Parmi les multiples devoirs qu'un dentiste peut être appelé à remplir, au cours de sa carrière, celui de conférencier, à un congrès comme celui-ci, m'avait toujours apparu comme très périlleux. C'est bien l'impression que j'ai ressentie, depuis que le distingué président du congrès de La Société Dentaire de Montréal, le Dr Louis Lépine, m'a invité à vous entretenir. Et si j'ai accepté cette invitation aussi honorable que périlleuse, c'est que, après réflexion, j'ai eu le sentiment que j'aurais manqué à un des devoirs du dentiste si j'avais refusé.

Je me suis rappelé qu'à Chicoutimi, à l'occasion de congrès dentaires régionaux, nous avons eu plusieurs fois, le généreux concours de confrères de la Société Dentaire de Montréal, et j'ai conclu que c'eût été ingratitude de ma part de refuser ma collaboration, si modeste qu'elle soit.

Dans les propos et potins de la colline parlementaire de Québec, rédigés par un journaliste de Montréal, j'ai lu l'anecdote suivante. Il s'agissait d'un dentiste européen qui présentait un bill, pour avoir le droit de pratiquer dans la province de Québec. "Ce jeune dentiste, explique son avocat, a eu bien de la misère . . . Il a passé quatre ans dans un camp de concentration".—"Ce n'est pas nécessairement un certificat de compétence en dentisterie", fit remarquer le président du Comité.— "Non, répond l'avocat, mais durant ces années-là, il en arraché."

Parmi nous, dentistes en liberté, il y en a qui en arrachent depuis un an, cinq

ans, dix ans et plus . . . Pour ma part, j'en arrache depuis trente ans . . . Mais au cours de cette causerie, sera-ce vous ou moi qui en arracherez le plus? Je me le demande . . . En tout cas, il ne me déplait pas d'en arracher avec vous . . . le travail d'équipe est stimulant . . .

Après vous avoir présenté quelques aspects de la pratique des dentistes, dans les régions éloignées des grands centres, je vous proposerai d'établir un contact intime avec nos chers confrères pratiquant dans les grandes villes, nous encourageant tous à une plus grande coopération, par l'intermédiaire de nos sociétés dentaires, de nos congrès dentaires et dans diverses autres occasions.

Je vous entretiendrai de la mission du dentiste dans les domaines intellectuels, sociaux et moraux, en relation avec sa profession; occasions d'apostolat auprès de ses patients; occasions d'un rayonnement bienfaisant dans la société, par des pratiques humanitaires recommandables. Et j'exposerai quelques préceptes et directives qui pourraient nous aider à spiritualiser davantage l'exercice de notre devoir d'état, si difficile à accomplir en maintes circonstances.

Je ne vous exposerai donc aucune technique opératoire en dentisterie. Je risquerai tout au plus l'ébauche de quelques techniques morales, sous forme de suggestions, d'invitations à nous grandir en science et en sagesse, dans la plus saine émulation réciproque . . . Autant vous dire que ce sera un pot-pourri qui vous

*Causerie prononcée au Congrès de la Société Dentaire de Montréal, le 31 mai 1951.

fera voir le beau et le mauvais coté de la médaille, dans la pratique de notre profession.

Et d'abord, devons-nous appeler dentistes de campagne ceux qui pratiquent dans les régions éloignées des grands centres? Un petit nombre . . . peut-être, et ces dentistes de campagne seraient, à plus d'un titre, parmi les plus méritants, tout comme les médecins de campagne de la meilleure sorte, en raison de l'éloignement des hôpitaux et des confrères, ce qui les oblige quelquefois à prendre des responsabilités plus grandes, et à employer des moyens ingénieux qui révèlent souvent une grande habileté . . .

Les dentistes très isolés vivent certainement des heures d'anxiété pénible, lorsqu'ils entreprennent des cas difficiles qui relèveraient plutôt d'un dentiste spécialisé en chirurgie buccale. Même lorsqu'il s'agit d'interventions ordinaires, il n'est pas toujours rassurant de ne pouvoir partager avec un médecin ou un confrère, certaines responsabilités pour des patients souffrant, à un degré avancé, du coeur, du foie, de diabète, de goître, des reins, des poumons . . .

Je ne me hasarderai pas à déterminer jusqu'à quel point les dentistes isolés peuvent se permettre de pousser leurs interventions dentaires compliquées. C'est à chacun de prendre ses décisions et ses responsabilités, selon son expérience et selon les circonstances plus ou moins graves des cas en présence . . .

Beaucoup moins isolés sont les dentistes pratiquant dans des petites villes d'au moins dix mille âmes. Ces petites villes sont davantage pourvues d'hôpitaux, d'un plus grand nombre de médecins, et tout particulièrement, d'une société dentaire comme il en existe maintenant dans toutes nos principales régions. Tout dentiste faisant activement partie de sa société régionale, peut se tirer beaucoup plus souvent d'embarras, parce qu'il en a appris le moyen, le secret, au cours de séances d'étude données au sein même de sa société dentaire, par des confrères de sa localité, ou par de savants ambassadeurs de quelque société-soeur, et voir même, par des professeurs d'Universités, parmi les mieux attitrés.

Aujourd'hui, ce qui isole de plus le dentiste éloigné des grands centres, et nous pourrions dire la même chose d'un dentiste pratiquant dans des grandes villes, comme Montréal et Québec, ce n'est plus tant la distance que le refus ou le retard à adhérer à une société dentaire régionale. Ne participant pas aux congrès ou aux réunions d'étude, au cours desquels une foule de théories et de techniques sont démontrées par des confrères spécialisés, ce dentiste isolé s'expose à ignorer des moyens faciles de se tirer lui-même d'embarras, dans diverses complications toujours possibles au cours de la pratique journalière: hémorragies, fatigues anormales du patient, lesquelles découlent quelquefois d'imprudences regrettables amenées par un diagnostic souvent erroné.

Si ce dentiste isolé ne puise pas régulièrement les conseils qui sont donnés dans nos revues dentaires, il sera bien exposé à se rouiller et à faire des manquements regrettables qui auraient pu être évités, si au moins il avait pris ce moyen de secours qui est à la portée du praticien le plus isolé . . .

Et de quel agrément ne se prive-t-il pas, celui qui néglige de se tenir en contact avec la science de sa profession, par la lecture si intéressante d'articles de revues, écrits par de savants et sympathiques confrères qu'il a déjà connus, ou qu'il pourrait apprendre à connaître, pour son meilleur profit . . . Si l'article de revue est écrit par un confrère de son temps d'université, c'est une très agréable façon de passer quelques bons moments en sa compagnie . . . et c'est presque le revoir et revivre d'excellents souvenirs de sa vie d'étudiant . . .

Si l'article de revue est écrit par un jeune dentiste qu'il ne connaît pas encore, c'est une excellente occasion de faire bon accueil à un nouveau confrère, et de devenir au courant des théories et techniques universitaires les plus évoluées . . . Et puis, à part le plaisir et la science dont on se prive en ne lisant pas, au moins notre intéressante revue de l'Association Dentaire Canadienne, c'est une véritable injustice à faire à ces dévoués confrères qui se donnent la peine d'étu-

dier à fond un sujet, afin d'en faire profiter leurs confrères et toute la profession. En particulier, le très zélé et très qualifié rédacteur de la section française de cette revue, le Dr Gérard de Montigny, a bien droit à notre collaboration de lecteurs assidus; autrement, il serait illogique de réclamer des pages françaises dans la revue de l'Association Dentaire Canadienne qui visite toutes les provinces du Canada.

En passant, permettez-moi de vous signaler les directives précieuses, données en pages 136 et 137 des *Délibérations* de l'Association Dentaire Canadienne de mai 1950, concernant la procédure à suivre pour l'hospitalisation dentaire de nos patients, et du comportement adéquat que nous devons observer dans une salle d'opération d'hôpital. Nous avons là l'occasion de faire bien ou mal juger notre profession, aux yeux des médecins et du personnel des salles d'opération. Et je vous signale aussi la page 80 du même pamphlet, où nous trouvons l'énumération des principes de l'éthique professionnelle du dentiste.

Au point de vue de la clientèle, il y a lieu de se demander s'il existe une différence notable, entre la clientèle des petites villes et celle des grandes villes... Avec l'abolition des distances et avec le développement de l'éducation qui progresse, grâce à la bonne propagande du ministère de la Santé Nationale, grâce aux causeries prononcées à la radio, par la Ligue d'Hygiène Dentaire de la Province de Québec, grâce aussi aux Unités Sanitaires, il y a lieu de croire que les différentes catégories de patients deviennent de plus en plus semblables, d'une ville à l'autre, grandes ou petites, à l'exception de la catégorie des grands personnages ou des gens très fortunés, qui sont certainement plus nombreux dans le grand Montréal ou dans le grand Québec, et ajoutons aussi dans Trois-Rivières.

Dans les centres éloignés, comme Chicoutimi, le Lac St-Jean, la Côte Nord, et peut-être la Beauce... nous avons probablement un plus grand nombre de braves bûcherons, dont quelques-uns se présentent encore dans nos bureaux, en nous disant qu'ils viennent pour se

faire vider la bouche! Nous apprécions autant cette façon hardie de se présenter que celle des douilllets et poltrons, comme il doit y en avoir dans toutes les villes, qui se présentent à reculons, en nous demandant, la main sur la bouche: "Faites-vous mal, vous, pour obturer une dent?"

Mais, chose certaine, nous n'avons plus, dans nos petites villes, des jeunes filles qui, désirant une pièce partielle, nous disent, en toute candeur: "J'suis venu pour me faire faire un p'tit dentiste...!" De cette catégorie de patientes, en avez-vous encore à Montréal...? Pour la sauvegarde de votre vertu, je souhaite que vous n'en ayez plus...!

Dans l'ensemble, les dentistes des campagnes et des petites villes, déficients dans certains domaines de leur pratique, n'ont pas de plus grand désir et de plus grande satisfaction que de se rapprocher de leurs confrères des grands centres, mieux partagés sur certains côtés, particulièrement dans le domaine des accommodations scientifiques spécialisées. Ils sont certes privilégiés de vivre à l'ombre de nos grandes Universités et de sociétés dentaires mieux organisées comme la Société Dentaire de Montréal, la Société de Stomatologie de Québec, et celle des Trois-Rivières qui, toutes trois, ont déjà célébré leur quart de siècle d'existence.

A ces trois sociétés si méritantes, il convient de joindre la Société Odontologique Canadienne qui est rendue à l'âge respectable d'une douzaine d'années. Ces quatre sociétés ont contribué grandement à fonder et à maintenir un grand nombre d'autres sociétés dentaires, dans notre province. La Société Dentaire de Chicoutimi à laquelle j'ai l'avantage d'appartenir, a été fondée, il y a sept ans, avec la précieuse collaboration de La Société Odontologique Canadienne, représentée alors par plusieurs de ses membres les plus méritants. Et, il y a deux ans, lorsque nous avons célébré nos noces "de bois", ce fût une joie profonde de compter parmi nos invités d'honneur, ces chers confrères qui avaient été les parrains de notre Société.

Cet hommage que je suis heureux de rendre à La Société Odontologique Canadienne, doit s'étendre aussi à toutes les

autres sociétés dentaires de la Province, puisque des membres de presque toutes ces sociétés sont venus nous visiter jusqu'à Chicoutimi, et partager leur amitié et leurs connaissances dentaires, avec leurs confrères d'une région aussi éloignée que celle du Saguenay.

Pour ceux qui sont trop jeunes ou trop sédentaires pour n'avoir pas encore participé à ces caravanes d'une véritable Université ambulante, allant porter le flambeau de la science dentaire, dans une région de dentistes de campagnes et de petites villes, je me permettrai, dans le but de créer une bienfaisante émulation, de donner quelques détails de ces glorieuses épopées accomplies par de vaillants et généreux confrères . . .

Depuis la fondation de notre Société Dentaire du Saguenay, nous avons eu, à chaque année, le concours très agréable et très instructif de confrères venant des quatre coins de la Province. Je vous en nommerai quelques uns, pour vous mettre l'eau à la bouche, et pour donner à un plus grand nombre le désir de venir nous visiter. Ce sont: les docteurs Louis Lépine de Montréal, (je ne donnerai pas les hautes qualifications de chacun, vous les reconnaîtrez vous-mêmes). Donc, Louis Lépine, de Montréal; R. E. Lussier, de Verdun; Viger Plamondon, de Québec; Gérard Plamondon, de Montréal; Jean Dallaire, de Québec; Euclide Malo, Jacques Demers, Paul-Emile Poitras, Lucien Laporte, Gérard de Montigny, Victorien Dubé, Alphonse Plessis-Belair, Roger Charette, Antoine Raymond, Guy Langelier, Lucien Lajoie, Jean-Paul Lussier, tous ces derniers de Montréal; Conrad Godin, Trois-Rivières; L. Deslauriers, St-Hyacinthe; Louis Bernier, Québec; Gérard Paquin, Donnacona; et d'autres dont les noms m'échappent.

Plusieurs de ces visiteurs, dont quelques-uns sont des maîtres en science dentaire, et d'autres, des professeurs attitrés de la Faculté de Chirurgie-Dentaire de l'Université de Montréal, furent les conférenciers de nos séances d'étude. Tous ces savants professeurs bénévoles ont traité, avec autorité, des sujets variés qui ont grandement augmenté nos connaissances, sur bien des détails de la

pratique dentaire, et c'est avec raison que nous disons, qu'ils peuvent constituer, à juste titre, une véritable Université ambulante.

Cet échange de connaissances entre des dentistes venant des quatre coins de la Province, est éminemment profitable aux praticiens d'une même profession. Les dentistes du Saguenay sont reconnaissants à leurs confrères des régions extérieures, qui ont bien voulu venir faire avec eux un échange de savoir aussi précieux, et ils leur conservent l'amitié la plus confraternelle.

Si nos sociétés dentaires continuent de se multiplier, en déployant sans cesse de meilleures activités, elles créeront certainement de nouveaux liens entre les membres de notre profession, et ce sera un grand avantage pour tous et chacun de nous. N'est-il pas vrai que nous nous sentons réconfortés après toute communication d'intérêt professionnel, ou après tout autre rapport d'une amicale confraternité, qui nous procure une magnifique occasion de nous estimer davantage?

Et c'est aussi un précieux encouragement, dans nos efforts vers le perfectionnement de notre pratique professionnelle, pour mieux servir la société et pour le plus grand honneur de notre profession. Notre compétence, en s'améliorant sans cesse, retardera l'institution de la dentisterie d'Etat, ou, au moins, elle nous méritera un meilleur mode de socialisation de la dentisterie.

Chaque région, chaque ville d'importance devrait avoir sa société dentaire, et multiplier les échanges de démonstrations scientifiques. La tenue de congrès régionaux, fournit une excellente occasion de faire valoir les mérites de notre profession, aux yeux du public; c'est une publicité collective des plus honnêtes, et qui peut nous consoler de celle que nous ne pouvons faire individuellement . . .

Lors de notre congrès de l'automne dernier, tenu à Chicoutimi, le Dr Jean-Paul Lussier, dentiste et professeur de biologie à l'Université de Montréal, avait entrevenu, à la radio, toute la population de notre grande région, sur un sujet dentaire très élaboré. Le public fut en outre informé du programme scientifique de

cette journée d'étude et de son banquet de clôture. Et durant les semaines qui suivirent, il était remarquable de constater, dans nos bureaux, le vif intérêt que nos patients avaient porté à cette communication d'un de nos distingués conférenciers.

Ces congrès régionaux, constituent un embellissement de notre carrière professionnelle, comme c'est un brillant reflet du beau coté de la médaille . . . C'est aussi un magnifique témoignage de compréhension, entre les dentistes des grandes villes, des petites villes et des campagnes, par un échange de nourriture scientifique et culturelle, desservie comme par des vases communicants, mais avec cette différence que le plus savant n'en est pas diminué . . . C'est un échange bons procédés comme on en voit dans les grandes familles où les membres s'entraident en partageant . . . C'est une sorte de communisme bien charitable et bien catholique que celui-là . . . Cette collaboration continue est la meilleure solution, pour effacer le handicap des dentistes pratiquant dans les régions éloignées.

Pour assurer la continuité de cette collaboration, établissons le meilleur trait d'union possible avec nos jeunes confrères, dès leur entrée dans la profession. Au nom des dentistes qui sont déjà des anciens . . . au moins par une année de pratique, qu'il me soit permis d'adresser un salut très cordial, et d'exprimer les meilleurs vœux de succès, à tous les jeunes confrères qui font leur début.

Nous leur devons des félicitations et des égards. Ne sont-ils pas le sang nouveau, nécessaire et très précieux à la survie de notre corps professionnel? On dit que de jeunes confrères sont quelquefois désarmés du vide fait devant eux, par les anciens déjà en position . . . Nous leur devons de la sympathie et un accueil aimable. Nous devons surtout leur donner, par notre propre conduite, l'exemple de ce qu'ils doivent être pour que notre profession conserve son rang. Leur préparation à la pratique, par des études de plus en plus poussées, et les grandes qualifications que l'on exige d'eux, en feront certainement des sujets d'élite, et

nous avons l'assurance que la relève sera magnifique.

Si nous le voulons, les plus vieux comme les plus jeunes praticiens de nos villes et de nos campagnes, tous unis en collaboration étroite, avec le doyen, les professeurs et les gouverneurs de notre belle faculté de Chirurgie-Dentaire, nous réussirons à rehausser continuellement la valeur de notre profession, et par le développement scientifique et culturel, de plus en plus poussé, nous serons en état de rendre des services dentaires encore plus qualifiés, à notre ville, à notre province, à notre pays.

Le dentiste est un citoyen d'élite dans la société, à condition qu'il en embrasse ses devoirs et ses obligations. Cette vérité nous est rappelée par l'Association Dentaire Canadienne, dans la présentation de sa récente brochure, "La carrière de Dentiste", dont je cite le paragraphe suivant: "La vie est essentiellement un moyen de servir, et les joies le plus durables qu'elle offre, proviennent du bien que l'on peut faire autour de soi. La profession de dentiste est d'intérêt public, et le dentiste manquerait à son devoir s'il recherchait d'abord le confort, le plaisir ou la satisfaction de son ambition personnelle; seul le praticien, qui a le souci constant de servir ses semblables, remplit une carrière bienfaisante et profitable. C'est en devenant un homme de science que le dentiste pourra vraiment être à la hauteur de sa tâche. Il ne lui suffira pas de posséder à fond sa technique opératoire, et d'être en état d'enrayer les maladies de la cavité buccale; il devra aussi joindre au goût de l'étude, le sens du devoir professionnel."

Cette citation peut nous inspirer bien des moyens à prendre, dans une foule de circonstances, pour être à la hauteur de la situation, dans nos bureaux et en dehors de nos bureaux.

En premier lieu, nous devons avoir le souci d'ordre moral, de probité, de conscience professionnelle, qui doit pénétrer chacune de nos journées de travail. Il nous faut avoir un esprit humanitaire et le véritable sens du dévouement.

Le grand nombre de qualités de base que l'on exige du candidat à la pratique

de la dentisterie est extraordinaire. Dans l'énumération de ces qualités, présentée par l'Association Dentaire Américaine, il n'est cependant pas mentionné que le dentiste doit posséder à un haut degré, la vertu de patience. Je suppose que la nécessité de posséder cette vertu indispensable, découle de l'exigence suivante, la première en liste, où il est dit que le dentiste doit avoir un système nerveux solide, parce que le fait d'avoir à traiter des patients nerveux toute la journée, occasionne une tension nerveuse considérable.

A qui le dites-vous . . ? J'en appelle à l'expérience des confrères qui sont en pratique depuis au moins dix ans . . . La patience est une vertu qui se développe, sans doute, en s'y entraînant avec l'aide de Dieu . . . mais comme elle semble vouloir s'user aussi, avec la diminution de résistance du système nerveux mis à l'épreuve.

Si on me demandait quelle est la première qualité requise pour un dentiste, je serais porté à répondre: la patience. A la question: "Quelle est la deuxième qualité"? je dirais: "La patience . . ." Et à la question demandant la troisième qualité, je répondrais encore: "*La patience . . .*", tellement je suis convaincu que c'est la principale, pour un dentiste . . .

La patience, c'est une vertu qui me semble capricieuse. Au moment où vous croyez la tenir, même à deux mains, elle vous échappe subitement. Nous pourrions citer une foule d'exemples de cas où notre patience est mise à l'épreuve, n'est-ce pas . . ? en commençant par le cas du dentier trop grand . . .

En novembre 1946, notre Saint Père le Pape, Pie XII, recevait en audience privée, les dentistes d'Italie, à la suite d'un congrès dentaire tenu à Rome. Faisant preuve d'étonnantes connaissances techniques, le Pape s'est appliqué à relever les caractéristiques de la profession du dentiste, ainsi que la mission morale et sociale qu'elle comporte. Je citerai quelques unes de ses descriptions qui sont bien propres à nous reconforter et à nous encourager, en même temps qu'elles nous présentent nos difficultés et nos devoirs. Combien peu de gens, parmi les profanes,

songent à la somme d'études et de connaissances qu'exige la profession de dentiste, aux efforts pénibles qu'elle demande, aux vertus morales qu'elle oblige à pratiquer . . .

Après avoir énuméré plusieurs des sciences que nous devons posséder, et avoir décrit la difficulté d'exécution de certains de nos travaux, le Saint Père continue d'entretenir les dentistes en ces termes: "Il vous faut encore acquérir un tact et un sens psychologique des plus fins, pour posséder la force de persuasion et l'autorité morale, souvent nécessaires pour prévenir ou vaincre les répugnances et les appréhensions instinctives, d'ordinaire encore plus pénibles et plus rebelles que la souffrance elle-même.

"De combien de constance, de combien de patience, de combien de résistance physique n'avez-vous pas besoin . . ! Qu'elle fatigue n'avez-vous pas à supporter, beaucoup d'entre vous, durant des journées entières, durant de longues années, dans une tension continuelle de vos sens, de vos nerfs, de tout votre corps, de votre esprit, de votre volonté, de votre sensibilité; toujours debout, dans une position souvent incommode, les yeux fixés dans l'attention; chacune de vos deux mains est occupée, elles doivent rester agiles, éviter de contracter les doigts, lorsqu'elles manient plus d'un instruments à la fois, tous ces mouvements rendus souvent difficiles, par les réflexes et les réactions du patient, qu'il n'est pas toujours possible d'empêcher . . . Et dans cette application intense, vous devez maintenir immuable votre calme, votre politesse, votre douceur, votre esprit de charité."

Je suspens ici la citation pour faire avec vous quelques réflexions pratiques. Ce tableau décrit par le Pape, et qui révèle en quelques mots la difficulté de l'accomplissement de notre devoir d'état journalier, n'est-il pas déjà suffisant pour que nous nous disions: Mais . . . nous avons là un métier qui peut nous conduire tout droit au ciel . . . si nous le voulons! Et nous le voudrions, en n'oubliant pas d'offrir, chaque matin, ce travail si exceptionnellement méritoire pour aider à notre salut éternel . . .

Le plus grand personnage du monde se penche vers nous, pour nous marquer sa compréhension et son encouragement . . . Et ce grand personnage est le représentant direct de Notre-Seigneur, Jésus-Christ, notre Maître à tous, qui nous invite à faire avec lui, un pacte d'amitié et de coopération qui nous sauvera certainement . . . Disons-nous bien, sans respect humain, que le premier moyen de nous maintenir dans ce pacte d'amitié, c'est de faire de notre travail de chaque jour, une prière. Nous avons à exécuter un travail professionnel trop difficile, techniquement et moralement, pour le réussir par nos propres moyens.

Nous ne nous attendrons pas à ce que notre Tout-Puissant Associé, appelons-le si vous le voulez bien, notre ami, le Sacré-Coeur, nous ne nous attendrons pas à ce que notre ami, le Sacré-Coeur, nous fasse extraire miraculeusement les dents incluses, mais si nous avons la fierté et la foi de penser qu'il nous regarde, nous saurons certainement déployer une plus grande habileté. Le calme et la patience nous seront peut-être donnés gracieusement par surcroît . . .

Confiant d'être secondé, au moins par les confrères de mon âge, je me permettrai de dire à nos plus jeunes confrères: "Si vous n'avez pas déjà pris cette bonne habitude, ne vous laissez pas vieillir davantage avant de recourir, journellement, à la prière, dans vos difficultés, qu'elles quelles soient. Cela ne prend pas de temps, juste un instant, de temps en temps, juste le temps d'un cri du coeur: c'est la prière. Sans la prière, à mesure que nous avançons dans la vie, nous réalisons que nous sommes lamentablement désemparés. N'avons-nous pas déjà entendu dire, qu'un grand chirurgien ne commence jamais ses opérations, sans faire une prière, et je crois que tous, nous trouvons cela édifiant. Donc, pas de respect humain! D'ailleurs, il n'est pas nécessaire de nous mettre les bras en croix! "In pectu", c'est aussi efficace . . . et la vertu d'humilité est moins en danger . . .

Lorsqu'on lit qu'un homme comme le Dr Alexis Carrel, l'auteur de "L'homme, cet inconnu", même avant qu'il eut re-

trouvé la Foi, exaltait la grande vertu de la prière, en disant qu'elle décuplait les facultés de l'âme et du corps, quelle confiance encore plus grande ne devons-nous pas avoir en elle, quand nous croyons avoir une Foi si solide depuis notre enfance.

Le Dr Carrel démontre que la prière accroît les énergies de l'homme, en s'exprimant ainsi: "Lorsque nous prions, nous nous rattachons à la force motrice inépuisable qui fait tourner l'univers." Et un commentateur de cette pensée, disait, en d'autres termes moins élégants: "Lorsque je prie, je m'embrancher sur la dynamo qui active toutes choses." Ce qui n'est pas un mince privilège . . . et il faut penser à l'exploiter à plein rendement.

Le Dr Carrel dit encore de la prière, qu'elle est un cri de détresse, une demande d'aide, un hymne d'amour, que tout se passe comme si Dieu nous écoutait et qu'Il nous donnait une réponse directe; des événements inattendus se produisent; l'équilibre mental se rétablit; le sentiment de notre isolement, de notre impuissance et de l'inutilité de notre effort disparaît: le monde abandonne son injustice et sa cruauté, et devient amical; un étrange pouvoir se développe au fond de nous. La prière donne la force de supporter les soucis et les chagrins, d'espérer quand il n'y a plus de motifs logiques d'espérer, de rester debout au milieu des catastrophes. Ces phénomènes peuvent se produire chez tout le monde, mais surtout chez ceux qui refusent l'accès de leur âme, au tumulte et à la confusion de la vie moderne.

Les paroles du Pape adressées aux dentistes d'Italie, sont pour nous un tel motif d'encouragement, que je vous présente encore quelques-unes de ses phrases. Je cite: "La profession de dentiste a aussi son aspect social. Que l'on pense seulement à l'importance que peut avoir, dans la vie privée et publique de l'homme, chacune des parties, organes, tissus, muqueuses, muscles, nerfs, glandes, vaisseaux artériels et veineux, dont l'ensemble se trouve renfermé dans la bouche . . . Un désordre quelconque, une légère altération d'un de ces éléments, peut avoir

sa répercussion sur la santé, sur le bien-être, sur le caractère, sur le rendement du travail, sur les relations de l'homme avec ses semblables. Des conditions bonnes ou mauvaises de l'appareil dentaire et salivaire, dépendent les fonctions bonnes ou mauvaises de l'appareil digestif, et, par conséquent, de tout l'organisme . . ."

Après plusieurs autres observations aussi compréhensives des attributs de notre profession, le Pape parla aux dentistes des grands blessés de guerre, des mutilés de la face, qui ont obtenu une véritable résurrection morale et sociale, grâce à l'intervention de dentistes spécialisés, et il termina son entretien en ces termes:

"Pour venir en aide à tant de malheureux, les différents spécialistes de la stomatologie ont uni leur science et leur habileté, tous les moyens fournis par les progrès les plus récents: radiographies, anesthésie, chirurgie, prothèse, greffes, mécanique et plastique. Ils ont apporté à cette oeuvre tout leur coeur d'homme, beaucoup d'entre eux, toute leur charité de chrétiens. Et voilà que des mains de ces admirables sculpteurs, de pauvres ruines humaines, atterrées la veille encore, à l'idée d'une vie en marge de la société, découragées, peut-être désespérées, sont sorties belles et vigoureuses, prêtes à reprendre leur place dans le monde, et à remplir la tâche qui leur a été assignée . . ."

"Vous avez le droit d'être fiers de leur reconnaissance et de celle de leurs familles, fiers d'avoir fourni une collaboration aussi noble à l'ouvrage du Créateur. Ne doutez pas qu'Il vous bénisse avec Nous, son humble représentant sur la terre, Père commun de ceux qui souffrent et de ceux qui guérissent les malades."

Ce beau témoignage du Pape n'est-il pas très précieux et très encourageant pour nous? Si nous n'avons pas, dans notre pratique courante, à restaurer des visages mutilés de guerre, c'est tous les jours que nous faisons des restaurations importantes et très variées pour nos patients.

Représentons-nous, pour un instant, le désarroi et la pitié que présenteraient des

milliers de nos patients, s'ils perdaient tout à coup les obturations et les divers appareils qui ont restauré leurs bouches et leurs physionomies. Nous ne prétendons pas que les dents ont autant d'importance que les yeux, et pour cause . . . car des yeux perdus sont remplacés par des yeux en plastique ou en porcelaine qui ne peuvent voir, tandis que des dents perdues sont remplacées par des dents en plastique ou en porcelaine, pouvant restaurer la fonction de la mastication et de l'apparence, presque dans son entier. C'est donc un service humanitaire grandement précieux et efficace que nous rendons fréquemment à nos patients; et dans certains cas, en traitant bien certaines dents ou en les extrayant judicieusement, nous pouvons leur sauver la vue . . . Il y a de quoi être fiers de tels résultats.

Nous partageons sincèrement toute la considération que l'on accorde à la médecine que l'on qualifie de sacerdoce, mais il nous est permis d'avoir une idée aussi noble de notre profession. Nous sommes les médecins de la bouche, nous sommes à l'avant-garde pour défendre la santé de tout le corps, puisque la majorité des maladies entrent par la bouche.

La noblesse de notre profession nous oblige à tenir bien haut son niveau intellectuel et moral, non seulement en développant notre science mais aussi en pratiquant les vertus évangéliques. Nos relations quotidiennes avec nos patients, nous offrent une foule d'occasions de pratiquer la charité. Un mot d'encouragement, un accueil agréable, une réplique étouffée à temps, une impatience cachée subitement, un conseil discret, un service rendu gratuitement, tous ces petits détails de la journée peuvent avoir la valeur d'un véritable apostolat, parce qu'ils répandront des bienfaits d'ordre spirituel.

Il faut nous appliquer à acquérir une personnalité qui rayonne la bonté et la charité pour nos patients, pour tous ceux que nous coudoyons dans la vie. Efforçons-nous d'être bons pour nos patients. Même s'ils sont d'une catégorie difficile à traiter, nous pouvons être très exigeants, dans la coopération qu'ils doivent nous donner, si nous pensons à procéder avec une bonté qui les impressionne. Car il est

reconnu qu'il n'y a rien dans le monde qui subsiste aussi longtemps que la bonté.

Et, puisque nous sommes des catholiques, notre devoir, comme médecins de la bouche, est de considérer nos patients comme des membres souffrants du Christ. Si nous y pensions plus souvent, nous serions plus généreux, plus dévoués et notre patience pourrait résister plus longtemps.

Il nous arrive quelquefois d'avoir à traiter des patients de marque, comme un révérend chanoine. Disons alors: Noblesse oblige! Il est probable que notre patience n'est pas prise en défaut, avec un aussi digne patient. Serait-ce parce qu'il est plus près du Christ, dont il est le représentant attiré . . . ? Tant mieux . . . si c'est là la principale raison!

L'idéal serait que nous puissions avoir assez d'imagination et surtout, assez d'esprit de foi, pour voir, dans notre fauteuil opératoire, au lieu d'un patient quelconque, notre ami, notre frère, le Sacré-Coeur . . . Et c'est toujours à Lui, ce grand ami si captivant, si distingué que nous ferions de belles et solides obturations, et de beaux dentiers bien ajustés. Quel contentement nous aurions à la fin de la journée! Que ce serait bien là le plus beau côté de la médaille, dans la pratique de notre profession!

En marge des services commandés par notre profession elle-même, la population au milieu de laquelle nous vivons, est en droit d'attendre de nous, d'autres services et d'autres exemples, selon les circonstances qui nous entourent. Mgr Léger donnait récemment aux finissants de l'Université de Montréal, le conseil suivant: "Dans une société entraînée vers la décadence, et oublieuse de tout idéal, vous devez vous présenter comme des modèles de vie intègre, de caractère vigoureux, d'intelligence lumineuse, afin de pouvoir être des chefs et des guides".

Ce conseil est aussi bon pour nous, et il convient que nous nous appliquions à le mettre en pratique. Mgr Pelletier donnait un conseil analogue aux médecins et aux dentistes réunis aux Trois-Rivières, à l'occasion du 25^{ème} anniversaire de la Société Dentaire de cette ville, lorsqu'il leur disait: "Soyez pour la société, des

guides, des éclaireurs, des chefs. La culture que vous avez acquise vous donne des devoirs, vous crée des obligations. Vous devez être des apôtres de la société."

C'est dire que nous devons savoir ordonner notre vie, de façon à lui faire produire le plus haut rendement spirituel, et que nous devons être, en toutes occasions, des catholiques exemplaires, des citoyens utiles, actifs et dévoués, participant raisonnablement à la vie sociale de notre ville ou de notre paroisse, en prenant rang dans certaines associations culturelles, civiques, charitables ou de bienfaisance.

Nous aurons là des occasions favorables de livrer un message à notre prochain, ne serait-ce que celui de l'exemple . . . Une bonne parole dite à propos, une démarche inspirée par la charité, une conscience nette de nos devoirs de citoyens, et de membres de cette grande communauté canadienne à laquelle nous appartenons, seront quelques-uns des bons moyens mis à notre portée, pour exercer une influence bienfaisante dans notre entourage, en nous comportant toujours avec la distinction qui convient, pour honorer notre profession.

Faut-il s'inquiéter des moeurs de bons garçons aussi réservés que le sont les dentistes, avec les dames? Contentons-nous de dire que tout chrétien doit se surveiller sur ce chapitre, le loup est toujours aux aguets . . . aussi bien que le démon du midi . . . Si nos moeurs sont au "beau fixe", il n'est rien de tel pour les maintenir ainsi que la retraite fermée périodique. Si elles sont bouleversées, rien de mieux encore que la retraite fermée.

Il est bien reconnu que les bienfaits spirituels des retraites fermées, sont d'autant plus considérables, qu'ils s'étendent à tout l'entourage de ceux qui les ont suivies. La retraite fermée a ceci de particulier, qu'elle travaille à l'amélioration spirituelle de l'individu, en vue de l'amener à mieux remplir ses devoirs d'état, familiaux, sociaux, nationaux, et d'en faire un apôtre par l'exemple, la parole et l'action, dans le milieu où il vit. C'est la retraite fermée qui contribue le plus à fournir l'élite chrétienne dont la

société a tant besoin, dans toutes les classes qui la composent. C'est une sorte de Pénicilline qui peut sans doute, être recommandée, pour la santé spirituelle, même des meilleurs dentistes.

Des dentistes doivent-ils s'inquiéter d'abuser des liqueurs alcooliques qui s'offrent à tous, dans de multiples occasions? Il est d'une importance capitale, qu'un dentiste sache bien où commence l'abus dans ce domaine . . . et qu'il sache surtout s'en défendre. Il est permis de reconnaître que le vin réjouit le cœur de l'homme, mais à chaque fois que nous en faisons l'expérience, pour goûter aux bonnes miettes de bonheur qu'une vie normale peut offrir, il convient de pratiquer la modération, en ayant beaucoup de respect humain . . . parce que, paraît-il, même les meilleurs amis ne pardonnent jamais totalement le manque d'équilibre, dans ce domaine.

Et puisque nous sommes à l'époque où la lutte contre l'alcoolisme s'impose, par l'évidence des abus et des méfaits qu'il engendre, laissez-moi vous citer ces opinions de deux médecins réputés qui fustigent l'alcool, en des termes assez éloquentes, et qui le classent comme l'ennemi no 1 de notre temps. Le Dr Charles Mayo s'exprime ainsi: "Vous pouvez toujours vous en tirer avec une jambe de bois, mais vous ne vous en tirerez pas avec une tête de bois! C'est la tête qui compte . . . Mais si vous voulez garder votre tête, tout votre corps doit être en santé. Et pour ce, il vous faut fuir l'alcool qui empêche un homme de faire sa vie et de remplir sa destinée."

Et le Dr Emerson, du Collège des médecins-chirurgiens de l'Université Columbia, apporte cet autre témoignage: "A une époque où la précision, la rapidité, la souplesse, la sûreté du corps et de l'esprit, sont indispensables au maintien de la société, il est évident que la tolérance de l'abus des boissons, qui amollissent l'esprit et le corps, et les prédisposent à la maladie, marque un manque d'esprit national, et, dans certains cas, constitue une véritable trahison à la patrie".

Ces opinions très autorisées sont bonnes à retenir, pour nous et pour nos patients. Ce domaine de l'alcool en est un dans

lequel nous pouvons assez fréquemment, exercer un apostolat bienfaisant dans nos bureaux. Il arrive que nous recevons les confidences de sujets "Lacordaire" ou autres . . . qui nous disent leurs luttes, leurs découragements . . . Nous avons à demander, avant certains traitements, si nos patients font usage de liqueurs alcooliques. Et, quand nous avons affaire à des "Lacordaires," ils sont généralement fiers de nous montrer leur insigne d'identification. Il convient alors de les féliciter de les encourager, car, dans bien des cas, ces sujets ont besoin de demeurer "Lacordaires," pour se maintenir en dehors des abus des boissons alcooliques.

La solidarité que nous partageons avec l'élite des classes dirigeantes, nous impose tantôt des actes qui demandent du courage, tantôt des restrictions qui exigent des sacrifices, dans la conduite de notre vie professionnelle et sociale, si nous voulons être à la hauteur de notre mission. Pour y réussir, nous avons besoin de guides et de modèles qui peuvent hautement nous inspirer et nous encourager.

Or, en cette période de prolongement de l'année sainte, ne trouvons-nous pas le conseiller le plus autorisé et le plus sympathique, dans la personne du grand Pape actuel? N'hésitons pas à le considérer comme notre premier chef, notre premier guide, dans un temps où tous les yeux et tous les cœurs, se tournent vers Rome. Quel chef plus ferme, plus éclairé, plus attachant fut-il jamais donné à des hommes d'avoir à leur tête? Montrons-nous dignes de cet honneur!

Si nous recourons aux directives d'un Pape qui sait si bien comprendre les difficultés de notre profession, nous n'aurons pas de moyens plus directs de bénéficier des grâces spéciales de l'année sainte que nous devons considérer comme un temps de réflexion, une année d'enseignement, un retour à la sagesse. Le saint Père n'a jamais autant parlé aussi directement, à tous ses enfants de la chrétienté. Il nous ouvre affectueusement une source incomparable de la miséricorde divine, qu'il ne faudrait pas laisser perdre. Saisissons cette occasion unique de nous régénérer, et offrons modestement au Très-Haut, toute

notre carrière de dentiste, par l'accomplissement de notre devoir d'état, en y ajoutant l'expression de nos regrets pour nos manquements et nos imperfections. Par cette offrande collective, notre carrière, professionnelle trouvera un accroissement de vitalité, et nous aurons le sentiment réconfortant que nous nous rattachons à la force motrice inépuisable qui fait tourner l'univers, comme dans la meilleure des prières. Car, qui mieux que le Pape peut nous rattacher plus directement au Christ, notre modèle, notre Grand Maître? Il convient d'avoir pour le Pape une véritable et profonde dévotion, en croyant bien que ce qui est fait au Pape est fait au Christ lui-même.

Nous devons nous appliquer à augmenter notre compréhension du véritable sens de la vie, en construisant en nous la personnalité la plus complète et la meilleure que nous sommes susceptibles d'atteindre. Il faut cultiver l'art difficile de savoir bien ordonner sa vie, de façon à lui faire produire le plus haut rendement spirituel possible. Pour bien réussir dans ce sens, il faut agir en tout avec un esprit surnaturel, en faisant tout compter pour l'éternité, ayant toujours en vue, pour nous encourager, que c'est la vraie formule pour rendre la vie plus féconde, plus méritoire et plus heureuse.

Je n'ai pas besoin de revenir sur les différents aspects de notre pratique professionnelle, pour vous faire saisir comment ils peuvent constituer le mauvais côté de la médaille. Cette médaille de notre profession se représente en deux phrases: Le mauvais côté, le côté terne, c'est notre profession pratiquée dans le terre-à-terre matériel, dans l'isolement et le défaitisme. Le beau côté, c'est quand notre travail de tous les jours est surnaturalisé, en fonction du service éminemment charitable que nous rendons à la société, en regard de notre salut éternel, et, par un surcroît qui constitue déjà une récompense immédiate, quand notre travail est solidarisé avec celui de nos confrères, par une coopération généreuse du cœur et de l'esprit.

Les autres sources de bonheur auxquelles nous pouvons puiser honnêtement pour nous réconforter, sont multiples...

Vous avez sans doute déjà su les choisir, pour la plupart d'entre vous. C'est d'abord le violon d'Ingres que chacun préfère, dont les notes mélodieuses viennent nous reposer, nous détendre, nous retremper, afin de nous retrouver encore plus en possession de nos moyens, pour être bons et charitables envers nos patients du lendemain.

Une source précieuse de bonheur, à laquelle il ne faut pas oublier de puiser, est celle de la famille, sanctuaire qu'il convient de toujours considérer comme le meilleur refuge. La famille restera toujours le nid ouaté où s'apaise toute souffrance, mieux que nulle part ailleurs. La famille sauve de toutes les solitudes, c'est le toit béni par excellence, et ceux qui le désertent sont bien à plaindre. Une romancière qui signe le nom de Jeanne, a dit judicieusement de la famille, que c'est: "L'oasis où demeurent toujours quelques arbres verts, quelques fruits savoureux... Qu'on y reste ou qu'on y revienne après un long voyage, on y trouve la table servie et l'ombre propice au repos. Tous les chemins qui nous éloignent de celui-là sont dangereux, infestés de brigands et de loups ravisseurs; ils mènent vers des déserts plus arides que le Sahara".

Cette citation m'invite à ajouter: Pour nous garder bien attachés au sanctuaire béni de la famille, mettons notre foyer sous la protection du Sacré-Cœur et de sa sainte Mère qui est aussi la nôtre. Sachons nous faire petits. Comprendons que nous avons toujours besoin d'une mère qui nous rappelle nos devoirs de fidélité, envers nos familles et envers son Divin Fils.

Pour nous maintenir constamment dans le chemin d'une vie bien orientée, nous pouvons trouver des modèles dans les cadres mêmes de la profession dentaire. Ces modèles sont nombreux parmi les confrères vivants que nous connaissons, mais par discrétion, et pour ne pas blesser leur modestie, rappelons plutôt le souvenir de deux confrères décédés dont la vie nous a laissé de très beaux exemples. On a dit du Dr Théophile Coté, dont le souvenir n'est pas prêt de s'effacer, qu'il était un parfait gentilhomme et un chré-

tien convaincu, alliant dans la plus juste mesure, la jovialité au sérieux, dans une affabilité proverbiale; que sa vie professionnelle fut vécue consciencieusement; qu'il traitait ses patients comme il aurait voulu lui-même être traité; qu'il a grandement contribué, par son travail et son enseignement, au progrès de la profession dentaire; qu'il était un fruit mûr pour le ciel et que son souvenir serait toujours un stimulant à l'effort, au travail, à la dignité de vie et à l'esprit de foi.

Du Dr Kenneth Carver, on a dit qu'il était un parfait chrétien, animé d'une foi robuste; qu'il a aimé profondément sa religion, sa famille, sa profession. Et je prélève textuellement quelques lignes de l'éloge, écrit du Dr Carver, par le Dr Don Gullett, secrétaire de l'association Dentaire Canadienne: "Toujours sur la brèche, le Dr Carver était prêt à tous les sacrifices pour servir ses confrères. La réaction de plusieurs dentistes, à l'annonce de sa mort, a été: "J'ai perdu un frère". Il représentait l'idéal du professionnel. Le progrès de sa profession fut son but constant, et les nombreuses charges qu'il occupait furent remplies avec sincérité et effort; il a laissé des traces ineffaçables. Il fut un bon citoyen. Il prit une part active aux activités sociales de son milieu. Il a bien servi sa religion, et, toujours, il a vécu ses enseignements. Il fut un bon mari et un père averti, dans un foyer heureux et confiant en l'avenir. Il est malheureux que ses trois petits enfants n'aient pu apprécier à sa valeur, la trempe du caractère de leur père."

N'est-ce pas que les éloges de ces deux confrères disparus sont magnifiques et bien mérités? Pussions-nous en mériter de semblables par la dignité de notre vie . . .

Et permettez-moi, pour terminer, de vous donner un aperçu très sommaire, extrait d'un "Art de vivre" présenté par un médecin, et qui peut constituer une bonne recette pour faire la conquête du vrai bonheur, dans une vie bien ordonnée: "Le bonheur étant quelque chose de très simple en soi, il faut se soumettre aux réalités de la vie, accepter l'inévitable, faire sa part à la souffrance, éteindre en soi les germes de révolte, écarter de son cœur les sentiments hostiles et mauvais, la défiance, la jalousie, l'envie, la colère; ouvrir toute grande son âme aux mouvements de générosité, d'indulgence, de pardon, de tendresse; bannir de nos propos tout ce qui peut nuire à notre prochain: les calomnies, les médisances, les curiosités malsaines; s'entraîner à la joie, à l'optimisme; cultiver la confiance en nous-mêmes; mépriser l'orgueil, mais développer notre personnalité jusqu'au terme de notre vie; comprendre son siècle, son époque; cesser de larmoyer sur un passé qui n'est plus, et, quel que soit notre âge, s'adapter aux formes nouvelles de la vie toujours en mouvement . . ."

Animés de ces bonnes dispositions, souhaitons ensemble que le maintien de notre idéal de dentistes savants, consciencieux, vraiment chrétiens, justifie notre fierté d'appartenir à un corps professionnel aussi méritant que le nôtre.

CONVENTION DE L'ASSOCIATION DENTAIRE CANADIENNE

à Ottawa, les 23, 24 25 et 26 septembre

Faites réserver vos chambres d'hôtel maintenant. Ecrivez au Dr H. N. Beach, 150 Metcalfe St., Ottawa, et mentionnez le nombre de personnes qui feront partie de votre groupe de même que le nombre de chambres requises. Les frais d'inscription étant de \$15.00, faites votre chèque et écrivez-vous aujourd'hui.

Ceux qui voyageront par chemin de fer pourront obtenir des billets à prix réduit, si un certificat d'identification est présenté à l'agent des billets. Le prix d'un billet d'aller et retour sera une fois et demie celui d'un billet simple. Ecrivez au Secrétaire, à 234 St. George St., Toronto, pour obtenir votre certificat.

L'ASSOCIATION DENTAIRE CANADIENNE et L'ASSOCIATION DENTAIRE DE L'EST DE L'ONTARIO

DIMANCHE, LE 23 SEPTEMBRE—Journée d'inscription

A.M.—Golf.
P.M.—Visite de la Ville.
P.M.—Soirée Musicale.

LUNDI, LE 24 SEPTEMBRE

A.M.— 9.30-12 midi—Inscription
Etudes expérimentales cliniques
P.M.—12.30—Lunch—Dentistes et leur épouse.
Conférencier—Le Premier Ministre du Canada,
L'Honorable Louis St-Laurent.
2.30—A.D.C. Assemblée et allocution du Président.
3.00—Dr Sumner Pallardy,
Chargé de cours en prothèse,
Université Temple, Philadelphie.
Sujet—Simplicité dans la préparation d'une
denture parfaite.
4.00—Conférence "George W. Grieve Memorial" par
le Dr Gerald Franklin, Montréal.
5.00—Visite sur la colline parlementaire.
7.00—Soirée intime.

MARDI, LE 25 SEPTEMBRE.

A.M.— 9.30-10.30—Etudes cliniques
10.45-11.45—Etudes cliniques
Cliniciens et Démonstrateurs:
1. Dr Sumner Pallardy, Philadelphie.
Sujet: Aspects sur la fabrication d'une denture complète.
2. Dr Orville Coomer, Louisville, Kentucky.
Sujet: Impressions hydrocolloïdales pour le travail des
ponts fixes.
3. Dr C. H. M. Williams, Toronto.
Sujet: Thérapeutique pour les abcès en périodontie.
4. Dr Stewart A. MacGregor,
Professeur en pédodontie à l'Université de Toronto.
Sujet: L'Art Dentaire présent, passé et futur
chez les enfants.
5. Dr W. J. Ross assisté par le Dr R. G. Hemmerich, Kitchener.
Sujet: Idées et Techniques utiles, découvertes et
pratiquées depuis 20 ans.
6. Dr Vincent Tremblay,
Service de dentisterie opératoire à l'Université de Montreal.
Sujet: Conseils pratiques sur la thérapeutique concernant
le canal de la racine dentaire.
7. Dr D. C. Gordon, assisté par le Dr E. T. Lamb,
Service de dentisterie opératoire à l'Université McGill.
Sujet: Principes d'inscrustation et d'applications pratiques.
8. Major S. K. Oldfield, Ottawa,
Corps Royal Dentaire Canadien
Sujet: Restauration d'amalgamation avec Emphase sur les
Applications du Moule.
Midi—Dîner libre
P.M.— 2.30—Dr Orville Coomer, Louisville, Kentucky.
Sujet: Les derniers développements sur la technique
hydrocolloïdale pour les moules et les ponts fixes.
3.30—Dr James P. Coupland, Ottawa.
Sujet: Revue sur les développements qui ont influencé
le cours de la chirurgie buccale.
4.30—L'Association Dentaire de l'Est de l'Ontario.
Assemblée Annuelle d'affaires.
7.00—Dîner, danse et réception des Présidents.
(sans formalités)

MERCREDI, LE 26 SEPTEMBRE

A.M.— 9.30-10.30—Etudes cliniques répétées.
10.35-11.45—Etudes cliniques répétées.
Midi—Lunch.
Conférencier—M. Gordon Graydon, M.P.
Sujet: Les Nations Unis Aujourd'hui.
P.M.— 2.30—Dr C. H. M. Williams,
Professeur-adjoint en périodontie, Université de Toronto.
Sujet: La situation présente en regard de la prévention
des maladies dentaires.
3.30—Dr LeRoy Ennis, Philadelphie,
Professeur en Roetgénologie, Université de Pennsylvanie.
Sujet: Interprétation du Rayon-X et de la diagnose.

Nouvelles de la Profession

Prix du Collège des Chirurgiens-Dentistes

Le prix annuel du Collège des Chirurgiens-Dentistes de la province de Québec, décerné à l'élève finissant des facultés dentaires des Universités de Montréal et McGill, qui a obtenu la meilleure moyenne de points sur les travaux pratiques de l'examen final du doctorat, sera dorénavant connu sous le nom du "Prix de Memorial Kenneth Carver."

Ce geste du Collège est fait pour honorer la mémoire du docteur Carver, qui s'est dévoué toute sa vie durant aux organisations professionnelles dentaires. Ce prix est décerné annuellement.

Doctorat "Honoris Causa" de l'Université de Montréal au Lieutenant-Gouverneur

Le docteur Gaspard Fateux, diplômé de la faculté de Chirurgie Dentaire de l'Université de Montréal, en 1921, vient

de recevoir un doctorat "Honoris Causa" en Chirurgie Dentaire. Le docteur Fateux est le premier dentiste, au Canada, appelé à occuper le poste de Lieutenant-Gouverneur d'une province.

Correction

Un article intitulé: "Le contrôle de la douleur en dentisterie," publié dans la livraison de mai 1951 du Journal avait été attribué au docteur François Cardin, de Pointe-Claire.

Cet excellent article, en réalité, avait comme auteur le docteur Roch Paradis, de Rouyn, qui s'était classé deuxième dans un concours de thèses à la faculté de Chirurgie Dentaire de l'Université de Montréal, en 1950.

Nous prions ce confrère d'accepter nos excuses pour cette erreur amenée par un concours de circonstances incontrôlables.

Exécutif de la Société Dentaire de Montréal



L'Exécutif de la Société Dentaire de Montréal pour l'année 1951-1952 se compose comme suit: président, Chs.-Aug. Durand; 1er vice-président, Roger Charette; 2e vice-président, Guy LeFrançois; secrétaire, Vincent Tremblay; secrétaire adjoint, Pierre Chalifoux; trésorier, Victorien Dubé; bibliothécaire, Louis Lépine; conseillers, Antoine Raymond, Gaston Lajoie, Fernand Lalonde, Léon Carpentier; aviseur, Guy Langelier; représentant au Collège des Chirurgiens-Dentistes de la province de Québec, Jacques Demers.

Dans la photo, on remarque, de g. à d., première rangée: Vincent Tremblay, Chs.-Aug. Durand, Roger Charette; deuxième rangée: Louis Lépine, Antoine Raymond, Guy Langelier, Guy LeFrançois, Victorien Dubé, Jacques Demers, Fernand Lalonde.



Courtesy Manitoba Bureau of Travel and Publicity

ON THE LOOKOUT FOR WHITE WHALES AT CHURCHILL

*"Grind while the winds blow, or if not, do not
blame Providence. God sends every bird its food,
but He does not throw it into the nest."* —SPURGEON.



J. P. WHYTE, D.D.S., F.I.C.D.
Swift Current, Sask.

Saskatchewan member of the Board of Governors of the
Canadian Dental Association.

Member of the Council of the College of Dental Surgeons
of Saskatchewan.

Fellow of the International College of Dentists.

Past Governor, Western Canada District,
Kiwanis International.

Past President Saskatchewan Amateur Hockey Association.

Past Grand First Principal, Royal Arch Masons
of Saskatchewan.

Lt.-Col. E. D. Canadian Dental Corps,
O.C. 12 Base Dental Coy. England
and Continental Europe.

ADDs Canadian Forces Netherlands
DDDS CMHQ 1946.

The Journal

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No. 8

Acrylic Fillings— General Comments and Some Experimental Data*

by D. R. CHRISTIE,** M.A., Toronto, Ontario

THE introduction of direct acrylic filling materials to restorative dentistry has presented the profession with many new problems, several of which have yet to be answered.

In this paper it is proposed to discuss briefly the physiological effect of direct acrylic fillings on the pulp of vital teeth, the chemistry of the materials and, in particular, to present some experimental data on adhesion and its relationship to volumetric shrinkage, which may be of importance in the successful application of these materials.

CHEMISTRY

Direct acrylic filling materials were first introduced in Germany during World War II as a substitute for metal fillings.^{1,7} It was found that methyl methacrylate ordinarily supplied for inlays, crowns, bridges, etc., could be polymerized in the mouth by incorporating benzoyl peroxide in the polymer powder and a tertiary amine in the liquid monomer. Apparently the amine activates the peroxide so that free-radicals which catalyze the polymerization are produced rapidly and the critical temperature of polymerization is lowered to such an extent that curing will occur at unusually low temperatures.

The first amine to be used in self-polymerizing dental resins appears to have been Michler's ketone⁶ and although a patent on the use of aromatic amines was applied for, tertiary aliphatic amines were generally accepted as most satisfactory because they produced less discolouration in the resins than did the aromatic amines. With their use, however, it was necessary to apply external heat by one of several methods to initiate the polymerization reaction.

The amine activators which were found most suitable were tributyl, trihexyl and trioctyl amines (all normal). Their general formula is represented by $R-N-R$ where R is an aliphatic

R

chain of carbon and hydrogen atoms with the formula C_nH_{2n+1} .

Further progress was made in England after the war with the development of Filcryn⁴ with its superfine polymer powder. This brand of acrylic filling material, however, still required the application of external heat to promote polymerization.

More recently in America there have been introduced acrylic filling materials which do not require the application of external heat and which will harden in the mouth in a very few minutes. This achievement may be

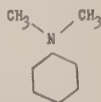
*This work was supported in part by a grant from the National Research Council of Canada through the Associate Committee on Dental Research.

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attributed to the use of very fine polymer powders and tertiary aromatic amines.

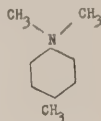
The polymerization of methyl methacrylate is catalyzed by the presence of dissolved high-molecular-weight resins. Since a very fine polymer will go into solution more rapidly than a coarse polymer, it follows that one of the chief functions of the direct acrylic polymer powders is to provide the conditions for rapid polymerization. This point is well demonstrated by the following experiment. A solution of a peroxide and a tertiary amine was made in methyl methacrylate monomer. To portions of this solution were added sufficient quantities of 100-mesh polymer powder in one case and 250-mesh polymer powder in another case to take up all the monomer and saturate the powder. The mixture made with the 100-mesh powder hardened in slightly more than four hours at room temperature while the mixture containing the 250-mesh powder polymerized in about 18 minutes.

As stated previously, the tertiary aromatic amines were said to cause more discoloration than the tertiary aliphatic amines. This tendency can be reduced to a considerable extent by selecting the proper amine and apparently this was done in the American products. The aromatic amines which are most effective in promoting polymerization are really combinations of aromatic and aliphatic side groups on a nitrogen atom. For example dimethyl aniline will cause rapid polymerization

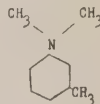


of methyl methacrylate monomer-polymer mixtures with, however, very intense discoloration. This is no doubt caused by chemical reactions involving the para-position of the benzene ring. Dimethyl aniline has been used in many instances as the starting material for the preparation of many of the so-called aniline dyes.

If the para-position is blocked by the presence of some chemical radical, for instance, a methyl group, then discoloration is reduced to a minimum. Dimethyl p-toluidine, has been positively identified here as



the amine activator present in most of the direct acrylic filling materials. Unfortunately, it is difficult to separate dimethyl p-toluidine and dimethyl meta-toluidine,



because their boiling points are very close together. It is likely, then that traces of the meta derivative are always present in the para compound. Experiments have shown that while dimethyl m-toluidine is also an effective polymerization activator, its use causes more discoloration in acrylic fillings than the para compound.

Discoloration is evidently caused by reaction between the amine and the benzoyl peroxide catalyst which is present in the polymer powder. An excess of peroxide, in addition to speeding up the polymerization, will produce intense discoloration.

In 1948, a Swiss dental company described the use of sulfinic acids for the polymerization of vinyl compounds.³ It was claimed that toluene sulfinic acid, for example, would promote rapid polymerization of methyl methacrylate at body temperature without producing any discoloration. The successful application of the sulfinic acids to dental filling materials may be limited by their chemical instability.

PHYSIOLOGICAL EFFECTS

Considerable attention has been given to the important subject of the

effect of direct acrylic fillings on vital teeth. In the United States investigators³ have claimed that no damage is done to the pulps of vital teeth by direct acrylic fillings in a period of 1-7 days. The observation time may not have been long enough to reveal any injurious results. In Europe, Castagnola² showed histologically that considerable pulpal irritation was produced although clinically no symptoms of these results became evident within the period of observation which extended as long as five months.

A histopathological study was made here in 1949 before the present brands of acrylic filling became available commercially. In our experiments on dogs' teeth, trihexylamine was used as the activator in methyl methacrylate monomer and benzoyl peroxide was incorporated in a brand of methyl methacrylate inlay powder. Polymerization was induced by the application of heat to the filling by means of a special heat-lamp designed for the purpose. A lamp, a mirror and a condensing lens from a motion picture projector were suitably installed in a housing so that the radiation from the lamp was focused on the end of a tapered quartz rod (straight or curved as necessary) which conducted and localized the heat on the filling.

In actual fact, then, this experiment was a study of the combined effects on vital teeth of the filling materials themselves and the method of producing polymerization. The results can not be compared directly with results obtained with the presently available filling materials which require no additional heating, although attempts were made to keep the temperature of the teeth below a value estimated to be a safe limit of tolerance.

Despite the application of heat and after a period of six weeks in the teeth, the fillings did not produce devitalization of pulps. The acrylic fillings did, however, cause local pulp irritation characterized by mild hyperaemia and the deposition of a protective layer of secondary dentine. This effect was also brought about by the zinc phosphate

cement bases which were used in some cases. Until further evidence is presented about this subject, it would seem wise to use protective cement bases under acrylic fillings, particularly deep ones. Further comments on the use of cement bases will be made later.

VOLUMETRIC SHRINKAGE

When methyl methacrylate monomer polymerizes it decreases in volume by approximately 21 per cent. A mixture of monomer and polymer in the ratio of one part of monomer to two or three parts of polymer by volume shrinks from 5 to 7 per cent. This value is unusually high for a material designed for fillings and apart from considerations of hardness, abrasion resistance and other physical properties, the matter of volumetric shrinkage would seem to be the most important single factor which could determine the success or failure of plastics for tooth restorations.

By a dilatometric method, the free volumetric shrinkages of three brands of direct acrylic filling materials have been determined. These materials will be designated by the letters F, K and R. The experiments were carried out by measuring the shrinkages which occurred under water at 37°C, using samples weighing approximately 0.8 grams. The materials were mixed according to manufacturers' directions and placed in the dilatometer when they had reached a workable or dough-like consistency. The time, then, at the beginning of each curve, shown in Figure 1, is approximately an indication of the working time at room temperature. These shrinkage values will be lower than the absolute values because of the time lost between mixing and the commencement of dilatometer readings, but should approximate the values which actually occur in practice.

The curves show at what point the most rapid and most extensive polymerization occurred and emphasizes that differences in brands do exist. For material K this came between 4 and 5 minutes after mixing; for material R, about 6 to 8 minutes and for material

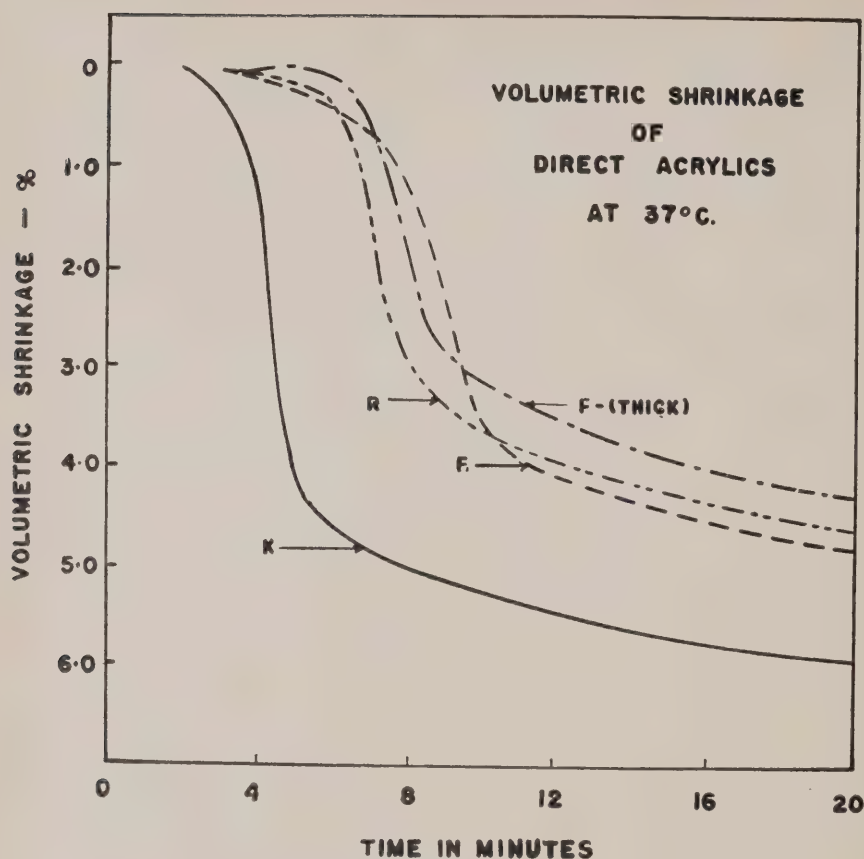


FIGURE 1

F between 7 and 9 minutes. After 20 minutes the materials had decreased in volume by the following amounts:

Material K	5.9 per cent
Material F	4.8 per cent
Material R	4.6 per cent

Figure 1 also illustrates the effect on the shrinkage of the amount of monomer in the mixture. The second curve for material F represents the shrinkage for a mixture with a consistency thicker than that recommended by the manufacturer. After 20 minutes

its shrinkage is 4.2% compared with the previously given value of 4.8%.

As stated before, the absolute shrinkages are higher. By inserting the materials in the dilatometer immediately after mixing and extrapolating the curves obtained to zero time, the following values were obtained.

The importance of these shrinkage values lies not in their relationship one to another but in the fact that they are so much higher than the reported values for other types of filling mate-

TABLE 1

	Volumetric Shrinkages	
	After 20 min.	After 1 hour
Material K	7.2	7.4
Material F	6.3	6.5
Material R	7.2	7.8

rials. Special attention, therefore, was given to the shrinkage factor in an attempt to show how the dimensional changes affect the suitability of plastics for fillings.

VOLUMETRIC SHRINKAGE IN CLOSED MOULDS

An investigation was made of the volumetric shrinkages of the three brands of direct acrylic fillings in closed moulds after the manner in which fillings would be placed in tooth cavities. The results of this study indicated what could be expected of these materials in practice.

The mould which was used in these experiments was essentially a three-part mould with the top cover being a glass plate. The centre section was 0.1 inches in height and the mould cavity was in the shape of a frustrum of a cone with a 20° vertical angle and was one inch in diameter at the top. This section and the base, which were made of steel, were drilled and tapped so they could be securely held together with screws.

Experimental procedure—Three commercial acrylic filling materials were investigated. The ratios of powder to liquid used were 1.3 grams to 1 cc. for material F and 1 gram to 1 cc. for materials K and R. The consistencies of the resulting mixtures were possibly thinner than would be used in practice. The corresponding values for volumetric shrinkage would, therefore, tend to be slightly higher than those encountered in actual use.

After mixing the powder and liquid, the material was immediately packed into the steel mould while it was still thin enough to flow. In this way, bubbles were avoided. The resin was compressed by the glass cover plate and excess material squeezed out. The mould was then clamped under pres-

sure for one hour and at the end of this time, the cured discs of resin were removed, weighed in air and immediately weighed in ethylene glycol to determine their volume. The original mould volume was determined by re-assembling the mould, leaving any existing flash in place, filling the mould with mercury in the same way as the resin was packed and then weighing the mercury. The discs were then stored in air at room temperature and weighed again after 24 hours.

Three types of surfaces were used in this work. The lower surfaces of the resin discs were processed against the polished steel of the mould itself or against a thin sheet of polyethylene which was placed over the steel bottom. The upper surfaces were cured against glass or, again, polyethylene placed against the glass. Because of technical difficulties the circumferential walls of the mould were not treated to make them non-adherent and were used in the condition which was imparted to them by machining operations.

The glass and steel of the mould provided surfaces to which the filling materials adhered to a greater or lesser extent, depending on the resin. The polyethylene sheets gave a non-adherent surface.

RESULTS

In Table II are listed the volumetric shrinkages of materials F, K and R as determined in a closed mould against combinations of the three surfaces mentioned above. The figures are averages of three determinations made for each set of conditions.

The values presented above in the first 4 columns for volumetric shrinkages are in fair agreement with values for free volumetric shrinkages determined dilatometrically. For example, after one hour dilatometer readings

TABLE II
VOLUMETRIC SHRINKAGES WHEN CURED AGAINST

	Glass-Polyethylene		Polyethylene-Polyethylene		Glass-Steel	
	1 hour	24 hours	1 hour	24 hours	1 hour	24 hours
Material F	7.9	8.0	7.8	8.3	0.3	0.8
Material K	8.1	8.6	8.1	8.2	5.6	6.2
Material R	8.2	8.8	8.8	9.0	1.0	1.5

were for material F 6.5%, material K 7.4% and material R 7.8%.

The differences may be attributed to experimental difficulties in determining the true original volumes of the discs made in the mould and of the samples placed in the dilatometer and also to the fact that the discs were probably denser because they were cured under pressure while the dilatometer samples, although condensed as much as possible before testing, were not under pressure in the dilatometer when measurements were taken.

Of special importance in connection with the results given in Table II was the location of the shrinkage. In the glass-polyethylene cases, the discs were observed to adhere to the glass and smooth mirror-like surfaces were produced. The adhesion could be easily broken by inserting a wedge and allowing a film of water to penetrate between the glass and the resin. The surfaces next to the polyethylene were irregularly depressed indicating that shrinkage had occurred here. Since the circumferential walls of the steel mould were used in their natural state and filling materials adhered to these surfaces, the discs were always tightly gripped to the mould and had to be hammered out. Measurements of the diameters of the mould and of the discs revealed that volumetric shrinkages as a result of changes in the disc diameters were not greater than about 0.3 per cent maximum.

The discs which were processed against polyethylene on both sides showed shrinkages on both surfaces and, as Table II indicates, the total shrinkage was the same within the limits of experimental error.

In the glass-steel cases, shrinkages were considerably lower in all cases. Internal shrinkage occurred in all these discs, however, with the development of extensive internal porosity. Material F showed the lowest volumetric shrinkage under these conditions and this can no doubt be explained by the greater adhesion, particularly to the steel mould, which was observed for this material.

Table II also shows that all of the materials continued to shrink by a small amount for at least 24 hours. The additional decrease in volume is smaller than the expansion which, for denture base acrylics, is reported to occur in the same period because of water absorption.

Before discussing the clinical aspects of these results some additional information on adhesion should be considered.

ADHESION

It has long been understood that the so-called cements for inlays, crowns and other dental restorations are not adhesives in the true sense of the word, but serve their purpose only by retention of the restorations by mechanical interlocking. Under the same long-term conditions, methyl methacrylate filling materials would probably act in the same way but sufficient evidence has been gathered to indicate that, during the period of polymerization, direct acrylics can adhere to natural teeth by chemical adhesion. This important property explains why these materials can be used satisfactorily as fillings despite their unusually high volumetric shrinkages.

Adhesion tests were made against glass, polished steel, polished stainless steel, wet and dry bone and later human tooth dentine. Bone was included as a material which would probably most closely approximate natural tooth dentine but this supposition was not borne out by experimental evidence. Beef rib bones were selected because of their size and shape and after being cleaned, degreased and ground to provide a rough surface were either dried or soaked in water and then wiped dry before the adhesion tests.

The adhesion experiments were carried out by cementing strips of polymerized methyl methacrylate to the various surfaces using material K as the adhesive. The strips were held in place under pressure for one hour. A boss of the acrylic filling material was attached at one end of the strip and through a hole in this boss a strong

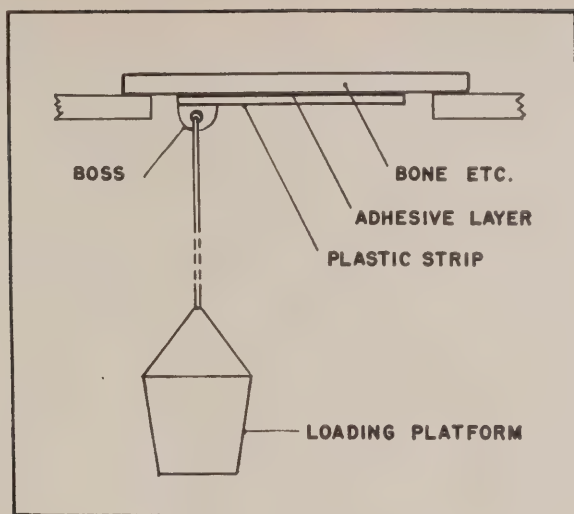


FIGURE 2

wire was passed to support a loading platform. The bone or other material was supported in clamps and lead shot was added to the platform at a constant rate until the specimen failed. The experimental arrangement is shown diagrammatically in Figure 2.

RESULTS OF ADHESION TESTS

The results of these experiments showed that the adhesion varied with the surface against which the filling material was cured.

Adhesion to human tooth dentine was slightly greater than to glass. A load of 2000 grams was sufficient to pull the specimens from glass and 2300 grams was the average load to cause failure of the adhesion to dentine. It should be recalled here that, in the closed mould experiments, adhesion to glass was strong enough to prevent the direct acrylic filling materials from pulling away from the glass top of the mould with the result that shrinkage on this surface was prevented.

Adhesion to a rigid block of polished stainless steel was appreciably stronger. The average load at failure for three specimens was 4500 grams. In fact, the magnitude of this adhesion at once raises the question as to wheth-

er stainless steel is a suitable matrix material for use in the placement of fillings in practice. Further research could be made on this subject.

In the case of bone which was soaked in water and wiped dry before the specimen was cemented to it, an average load of 7300 grams was required to break the adhesion. At failure the specimens separated completely from the bone.

The adhesion to dry bone was still greater and a load of 12,000 grams was needed to cause failure. In these tests, the specimen usually broke in two pieces near the point of loading leaving most of the strip adhering to the bone. The effect of a film of water on the adhesion is well demonstrated by a comparison of the wet and dry bone adhesion tests.

The strongest adhesion was found in the case of polished steel where a load in excess of 14,000 grams was applied before the test pieces failed.

Similar tests were attempted by cementing strips with acrylic adhesive to hardened zinc phosphate cements and also by cementing strips to bone and dentine with zinc phosphate cements. The acrylic resins had virtually no adhesion to the zinc phosphate ce-

ments and similarly there was no adhesion between zinc phosphate cements and bone or dentine. This means that where zinc phosphate cements are used as protective bases for vital pulps under acrylic fillings, there is a real danger in producing an inferior filling. For example, in placing fillings in extracted teeth here, it was found that it was difficult to avoid placing some zinc phosphate cement base in the retention undercuts. When this was done the acrylic filling could be easily dislodged by mechanical action. There is, indeed, a real need for a more suitable cavity lining material.

CLINICAL SIGNIFICANCE

The closed mould experiments demonstrated that when direct acrylic filling materials were polymerized between two adherent surfaces, one of which was glass, sufficient adhesion existed between the glass and the resin to prevent surface shrinkage and cause internal shrinkage or porosity. The adhesion tests indicated that adhesion of direct acrylic filling materials to dentine is slightly greater than adhesion to glass. It follows, then, that volumetric shrinkage of acrylic resins in tooth cavities can be controlled or localized to the free surfaces.

During the first hour, when direct acrylics undergo most of their shrinkage, it is important for real chemical adhesion to exist between the tooth and the filling. The adhesion tests indicate that this does happen. Under such conditions the shrinkage will be confined to the free surface, that is, the area adjacent to the matrix. This supposes, of course, that the matrix material does not adhere to the filling or, if it does, it is sufficiently flexible at the point of contact to follow the resin as it contracts in volume. The adhesion tests suggest that the suitability of stainless steel as a matrix material is open to question. An inves-

tigation of the effect of matrices on the shrinkage and internal structure of acrylic fillings might reveal valuable information.

If a suitable matrix is used then the free-surface-shrinkage of an acrylic filling should produce a slight concavity. This fact has been observed in many instances in experiments here with extracted teeth. For this reason and where the contour of the filling is important, an excess of resin should be formed over the cavity, if possible, then ground and polished to the shape or contour of the tooth.

It has also been observed that moisture can destroy in time the adhesion of acrylic fillings to the various surfaces and that the adhesion is noticeably less to a surface which is saturated with water. This is a strong indication that cavities in teeth should be prepared under the driest possible conditions. Although chemical adhesion of the acrylic filling to the tooth may be reduced or destroyed after the filling has been in place for some time, and retention by mechanical adhesion may have to be relied upon as, indeed, is the case with most filling materials, the important requisites of chemical adhesion during polymerization and good marginal adaptation can be realized.

ACKNOWLEDGEMENT

This research was carried out under the general direction of Mr. O. J. Schierholtz of the Department of Chemistry, Ontario Research Foundation. The author is indebted to Dean R. G. Ellis, Dr. R. J. Godfrey and Dr. J. E. Fletcher of the Faculty of Dentistry, University of Toronto and to Dr. A. B. Hord for their invaluable assistance and advice.

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Portée Clinique

Des expériences faites en vase clos ont montré que la polymérisation directe de la substance obturatrice d'acrylique entre deux surfaces adhérentes, dont l'une de verre, détermine un contact suffisant entre la résine et le verre pour éviter un retrait

superficiel, que entraînerait une contraction ou une porosité intérieure. Des épreuves tentées sur le problème d'adhésion ont prouvé que celle-ci est légèrement plus forte sur la dentine que sur le verre. De là, on peut conclure que la contraction en volume des résines dans les cavités peut-être contrôlée ou localisée aux surfaces libres.

Durant la première heure où s'opère la plus grande partie de la contraction, il importe d'obtenir une adhésion chimique réelle entre la dent et la substance obturatrice. Les expériences montrent qu'il en est ainsi. Dans ce cas, la contraction se localisera au bord libre de l'obturation, c'est-à-dire à la partie en contact avec la bande d'insertion. Il va de soi que la bande ne doit pas coller à l'obturation; si elle adhère, il faudra qu'elle soit suffisamment flexible pour obéir au retrait de l'acrylique. Les expériences entreprises sur l'adhésion du matériel mettent en doute la valeur des bandes d'acier pour ce genre d'obturation. Une étude sur l'influence des matrices sur la contraction et la constitution intime des obturations de résine serait des plus intéressantes.

L'emploi d'un matériel à matrice idéal devrait déterminer une légère concavité à la surface libre d'une obturation en résine. Cette constatation a été faite à plusieurs reprises au cours d'expériences entreprises sur des dents extraites. Pour cette raison, on devrait ajouter, si possible, un léger surplus de résine dans les cavités où le contour normal doit être reconstitué. On peut ensuite meuler et polir ce surplus pour redonner à la dent son aspect physiologique.

On s'est rendu compte aussi que l'humidité peut influencer, avec le temps, le contact de la résine avec les différentes surfaces de la cavité et qu'il est vraiment moins fort à une surface imbibée d'eau. Cette constatation montre le nécessité de préparer les cavités dans un champ sec. Il se peut que le contact chimique entre la résine et la dent soit amoindri ou disparaisse avec le temps et qu'on doive compter sur la rétention mécanique des cavités pour retenir l'obturation, comme pour toutes les autres substances obturatrices.

Néanmoins, il faut obtenir un contact chimique durant la polymérisation et une bonne adaptation marginale.

ANNOUNCEMENT

UNIVERSITY OF TORONTO, FACULTY OF DENTISTRY CONTINUATION COURSES FOR GRADUATES IN DENTISTRY

The Faculty of Dentistry, University of Toronto, announces a series of short intensive courses for dentists during the 1951-52 session. These courses will be arranged and conducted by the staff of the Faculty of Dentistry with the co-operation and financial support of the W. K. Kellogg Foundation of Battle Creek, Michigan. When deemed advisable, outstanding visitors will be included among the lecturers and clinicians.

These courses will be designed to provide the general practitioner with an opportunity to keep abreast of standard methods and procedures of practice, and to become informed respecting the most recent developments within the profession. Instruction will be given through lectures, seminars, and clinical demonstrations. The fees for the courses will be \$75.00 for a five-day course, \$50.00 for a three-day course, and there will be a registration fee of \$10.00 for the Dental Public Health Conference.

ANATOMY AS APPLIED TO DENTISTRY

September 12, 13, 14, 1951. 9.00 a.m.—5.00 p.m. Enrolment limit 6

PERIODONTICS

October 29—November 2, 1951. 9.00 a.m.—5.00 p.m. Enrolment limit 14.

ORTHODONTICS (for the general practitioner)

November 5-9, 1951. 9.00 a.m.—5.00 p.m. Enrolment limit 10.

DENTAL ORAL SURGERY AND ANAESTHESIA

November 19-23, 1951. 9.00 a.m.—5.00 p.m. Enrolment limit 12.

DENTAL PUBLIC HEALTH CONFERENCE

November 20, 21, 1951. 9.00 a.m.—5.00 p.m. Enrolment limit 15.

CEPHALOMETRIC TECHNIQUES (for specialists only)

January 28, 29, 30, 1952. 9.00 a.m.—5.00 p.m. Enrolment limit 10.

OPERATIVE DENTISTRY

February 18-22, 1952. 9.00 a.m.—5.00 p.m. Enrolment limit 10.

DENTAL RADIOLOGY

February 25—March 1, 1952. 9.00 a.m.—5.00 p.m. Enrolment limit 12.

DENTAL CARIES: ETIOLOGY AND PREVENTION

March 6, 7, 8, 1952. 9.00 a.m.—5.00 p.m. Enrolment limit 6.

ENDODONTICS

March 10-14, 1952. 9.00 a.m.—5.00 p.m. Enrolment limit 8.

ORTHODONTICS (for the general practitioner)

March 31—April 4, 1952. 9.00 a.m.—5.00 p.m. Enrolment limit 10.

Other courses will be arranged as the demand indicates. Those interested are asked to inquire respecting enrolment. Please address inquiries to: The Dean, Faculty of Dentistry, University of Toronto, 230 College Street, Toronto 2-B, Ontario.

How Is The General Practitioner To Regard The Specialty Of Orthodontics?

by ALFRED P. ROGERS, D.D.S., A.M., D.Sc., Boston, Massachusetts

PROFESSIONAL men who elect to practice as specialists in any given field at once assume a specific responsibility. They may be motivated by a number of considerations. A particular liking for or a recognized aptitude toward a given field or a desire to be of more adequate service, — these are praiseworthy motives. There are other motives which cannot be considered quite as praiseworthy, but may and sometimes do produce men who are able to give valuable service. But to get the most out of any endeavour one must have not only a particular aptitude but coupled with it the desire that gives satisfaction in service. The specialty of orthodontics had and has many such men earnestly working to promote the welfare of their specialty by constantly seeking greater efficiency. Most of these men are men of my acquaintance. I have watched them and worked with them since the beginning of this century when the foundations were laid for the development of a specialty in dentistry which has assumed the task of unravelling some of the most delicate and intricate problems known to our profession. Leaders in this specialized branch of dentistry know that malocclusion presents itself in a thousand unexpected forms, and that the burden of study and research is undertaken simply with the hope of reducing the fundamental incomprehensibles to the smallest possible number. From the beginning to the present there has been developed a large volume of recorded matter, much of it of a scientific nature. The collateral sciences have been drawn upon constantly, and the services and advice of men prominent in many fields have been cultivated and adapted to the needs of orthodontics; and paralleling these efforts in the

scientific field the art of orthodontics has been steadily furthered by painstaking and long continued efforts by those skilled in the mechanical phase. For many years the results of the labours of these men have been on record in magazines devoted almost exclusively to the practices and principles of orthodontics. The circulation of these magazines has been somewhat limited. Orthodontists have had their own conventions, and it is all too infrequently that papers on orthodontics are presented to the general dentists. There is a section of orthodontics in the American Dental Association, but my experience has shown me that the attendance at these lectures and demonstrations has been poor and that few men in general practice are found in the audience. Therefore, it is not to be wondered at that the profession of orthodontics has in a measure become set apart, and that as a consequence problems arise between the parent profession and its offspring, the specialty of orthodontics. It may be necessary in the future because of further specialized activities that this divergence shall continue, and as the years go by for orthodontics to assume more and more the position of a separate profession. This may not seem by some to be completely desirable when considering the immediate welfare of the entire population of children. At this period in our development we are faced with the fact that orthodontists are unable to care for more than a small proportion of the children who are really in need of orthodontic treatment. It is with this thought in mind that we shall discuss the question of how the general practitioner is to regard the specialty of orthodontics. It should be brought into full prominence that the problems of orthodontics

are so numerous and so complex that the serious student must come to the conclusion that there are not years enough in his life for him even to begin to approach the point where he may assume that his knowledge is entirely adequate. This brings into relief the fact that the general practitioner who has not given special attention to the literature, and who has not had the privilege of close association with the leaders in this specialty, must of necessity be greatly handicapped in his approach and understanding of the problems which are perplexing and sometimes bewildering even to those whose lives are devoted to its study and practice.

In this day and age true realism is the only philosophy that is safe for the professional man to adopt, for it is only when we see and understand things as they really are that we can be of lasting service to our fellow men. We must forget our prejudices and our personal dislikes, and work for the advancement of our own attainment to the end that we may become of greater use. We cannot waste our strength in anything but true professional effort. And with reiterated emphasis I should like to say that we are worthy to be listened to only when we are willing to accept this approach. It is an absurdity to think of untrained men as undertaking tasks for which they are not fitted. Especially is this true when a little child is the one who suffers most from incompetence. We hear loud voices sometimes when we seek to defend our professional ideals against the attacks of incompetent invaders. Therefore the wise man eventually, unless he becomes well instructed will thank the gods that he has had the wit to pass over to the specially trained the problems that he, himself, does not understand.

It is perhaps not too much to hope that by well directed effort, and counsel among ourselves, we may in the years to come make possible the dissemination of knowledge necessary for at least a partial solution of our pre-

sent dilemma. We must be ever mindful that readiness means all—that the art of preparation is the final secret of mastery. We need the vision of the idealist tempered with the practical mind of the realist. On occasion we need to look to other professions for guidance or example, but we should be intelligent enough to plan and execute our own advancement if we employ wisely our own experiences. Those who are conversant with the literature of our profession well know how often they are misled when they have not a living active experience to assist them in comparing theory with practice in relation to a given problem. Blind responses to partially digested material are apt to lead to confusion and failure.

EDUCATIONAL METHODS

We know that education and educational methods and educational opportunities are fundamental to desirable advancement; and just as in the years past dentistry itself was forced to frown upon the proprietary school, which I must admit served a brief evolutionary purpose, professional dentistry will need to protect its offspring, the various specialties, against just such methods of training at the present stage of our advancement. Several university dental schools have established already graduate instruction in Orthodontics where the general practitioner may obtain satisfactory education, but these schools are not as yet sufficiently developed or financed to accept more than a few students each year. If the dentist desiring advancement in orthodontics seeks apprenticeship in pseudo-charitable clinics, or fly-by-night schools the inevitable result will be an increase in the number of orthodontists with lowered standards. Such a flood of ill-trained men will do much to destroy all that has been gained during the last half century or more.

Mail-order concerns preaching the simplicity of orthodontics have found a ready market for their wares. The dissipation of such evils is not an easy

task for the orthodontist. He must have the sympathy and support of the parent profession which can and should work shoulder to shoulder with the orthodontist, recommending the accredited graduate schools of orthodontia as being the most sensible solution of this problem. In this way only shall we be able to reach ideals that should be the aim of each one of us. No greater disservice can be done the profession of dentistry than for the general practitioner to encourage the inadequate instruction offered by proprietary schools that are in some sections the illogical fashion of the hour.

RELATION OF GENERAL PRACTITIONER TO ORTHODONTIST

Now we shall consider some of the problems which confront the general practitioner and the orthodontist in meeting the increasing need for orthodontic service, and discuss some of the important interrelations. During the past years this subject has received inadequate attention. Yearly the urgent want for orthodontic services increases, and our profession continues to lag in its ability adequately to meet this situation. There always will be divergence of opinion regarding the proper course of action, but as the years pass there should be a clearer and more definite understanding so that ultimately the greatest good can be done for these myriads of patients who are really the first to be considered, and in whose interests every false conception should be set aside. It is not a question of whether the general practitioner should or should not practice orthodontics. The question is rather one of fundamental honesty whether or not the general practitioner is prepared or whether there is a desire to reap where he has not sown, because the unquestioned principle, both ethical and moral, is that children of any community are entitled to the very best treatment procurable, and that does not mean merely that the final result shall be satisfactory for the individual, but that the process of attaining that result shall

be as scientific and as skilfully executed as is possible. This means that the mind and hands conducting the treatment shall be skilled to the highest degree, for where there is unswerving effort there is danger.

It is well to perceive the broadened field of orthodontics, that field which includes the general practitioner as well as the orthodontist, the physician, the parent, and last but by no means least the child with its hereditary and environmental influences.

The fundamental assignment of the general practitioner is, first of all, to be a guide and counsellor of the parent in relation to all oral conditions. This relationship is a sacred one, and must be supported upon a platform of truly ethical principles as well as sound knowledge. There should be in him a deep awareness that if his advice to parents is based upon any other foundation it is apt to be thought unreliable, and in the end reflect discredit upon him. Therefore he will keep fresh in his mind his knowledge of the normal growth and development of the dental organs and their relation to the surrounding tissues. He will be careful to know enough of orthodontic diagnosis to be able to classify the various types of malocclusion in order that he may give the parent an intelligent conception of the probabilities of the future oral development of the child; and not carelessly pass the matter off with the advice to "wait until all the permanent teeth have erupted" or "leave the child alone,—nature will take care of the maldevelopment." Because whether he realizes it or not the family dentist who gives this type of advice will sooner or later be found by the parent to be either ignorant or deliberately unprogressive, and a handicap both to himself and the patients whom he is supposed to serve.

TREATMENT OF MALOCCLUSION

The treatment of a given case of malocclusion cannot be considered as a mere mechanical process in which

the child has no part other than submission, or in which the parent has no interest other than meeting the costs, or in which the general practitioner himself has no part. Neither can it be considered a mere job for one skilled only in mechanical orthodontics. It is true, of course, that in mechanical treatment certain logical and progressive steps must be formulated and carried out with precision, but the whole field surrounding the child from the physical, psychological and nutritive stand points requires intelligent thought and judgment. Possibly it may be the parent who first becomes anxious regarding some gross or even slight maldevelopment which is taking place in the child's mouth. It is natural, of course, for the mother to consult the family dentist and obtain from him his advice regarding the wisest course to adopt. Or it may be as very frequently happens that the developing malocclusion may be called to the parent's attention by the family dentist. If he happens to be practising in a community where proficient orthodontists are known to be in practice he may refer the case to someone whom he knows to be sufficiently skilful to render the best service for the child; but if he happens to be in rural practice and the matter of distance makes it well nigh impossible for the child to receive skilled orthodontic treatment, then it is his duty to so prepare himself that he is adequate for a rural practice.

THE RURAL PRACTITIONER

In dentistry, as in medicine, the rural practitioner from necessity should be a broader all-round professional man than the city practitioner. He has an added responsibility because there are not accessible men qualified to relieve him of his obligation. The country physician has, however, one great advantage over the country general practitioner in dentistry in that there are hospitals within reach, in this day of rapid transport, where a seriously ill patient may be placed un-

der the most skilled attention. Let us therefore dispose of the problem of the country general practitioner by suggesting that during his dental course he avail himself of every opportunity to perfect himself in the understanding of orthodontic fundamentals, and that he insist upon obtaining before his graduation a sufficient knowledge of the technique of orthodontic treatment to be of definitely significant worth to him. If he is disappointed in this endeavour because of the meagerness of the undergraduate course in orthodontics he should in some manner obtain his information by first-hand contact with orthodontists, or groups of orthodontists, who will guide him in his studies, and advise him regarding the technical difficulties necessary for his future practice in the country. Possibly a consultation centre where the rural practitioner may come for aid in diagnosis and treatment and where his problems could be simplified and clarified. The country practitioner, if he is wise, will give little attention to the advertisements which urge him to buy ready-made appliances which cannot be, by the greatest stretch of the imagination, of any real value to his patient or ultimately to himself. It is my feeling that the dental colleges themselves are responsible for this harmful practice in that they have not always sent their graduates into the world of practical effort with the wisdom of awareness of such commercial evils. I cannot conceive of an honest general practitioner, knowing that his knowledge of orthodontics is inadequate, permitting himself to place in the mouth of a young child an appliance made by someone else and sent to him through the mail. The practitioners in rural communities should guard against the policy of extraction with an idea of simplifying a given case of malocclusion. Some persistently advise the extraction for correction of malocclusion. The very plausibility of the arguments set forth has resulted in the destruction of many fine occlusal rela-

tionships. There comes to my mind at this point an incident which happened in my office a few years ago when a mother from a rural community brought her child to me for consultation. From her story I learned that her dentist had recently listened to a lecture on the extraction of the four permanent first molars. This dentist had not received during his college course a sufficient amount of fundamental orthodontic education to drown his gullibility when orthodontic problems faced him. He had advised this mother that it was expedient to extract all four permanent first molars for her eleven-year-old child. Fortunately for the child the mother had some misgivings. After listening to her story I examined the child's mouth and found to my great delight a most beautiful and well developed mouth. There was no orthodontic problem whatsoever involved. Yet, where this child escaped the consequences of the faulty judgment of one unschooled in orthodontics, who can doubt that perhaps hundreds of other children have suffered the maltreatment that this boy escaped.

EXTRACTION FOR CORRECTION

While on this subject of extraction for the correction of malocclusion I am going to read you an extract from a paper read by one of the most skilled and highly ethical general practitioners of my acquaintance. He writes:

"The moot question of extraction in cases of malocclusion seems to be no nearer a satisfactory solution today than it was twenty-five years ago. It must be admitted, however, that where all the conditions favour proper orthodontic treatment at the hands of a skilled orthodontist, and there is no difficulty about control of the patient for a sufficient period of time, and no economic problem is involved, the possibilities for an ideal result are greatest when all teeth are present in both arches. There are, nevertheless, many instances in which all these favourable conditions do not exist, and it becomes

necessary for the general practitioner, in cooperation with the orthodontist, to decide whether one or more teeth should be removed for aesthetic reasons. If the patient is so situated that time is not available for proper expansion of the dental arches and complete treatment, or if their financial condition is such that they could not afford to do the ideal thing, it is conceivable in certain cases that a compromise may be justifiable. There are orthodontists who regard the extraction of any normally shaped tooth as a sacrilege, and we admire them for their idealism. There are others working in the field of orthodontia who, through articles in the dental literature, enthusiastically advocate the removal of teeth as a means of correcting marked irregularities. By these measures it cannot be argued that they have established correct occlusion, because any denture that has been mutilated by extraction of one or more teeth is ever afterwards in malocclusion according to our conception of normal occlusion. It is true that a certain improvement in the appearance of the denture may have been achieved, and, as stated before, this radical treatment in some cases may be justifiable. In almost all cases of extraction there is an aftermath of unfavourable results, which may be slight or in later life become serious. Among these results may be mentioned predisposition to caries due to abnormal interdental spaces, traumatic occlusion due to loss of occlusal balance, and a predisposition to periodontoclasia brought about by abnormal strain on the periodontal structures. As a concluding comment upon this special subject, it seems to the writer that there can be no hard and fixed rule in regard to the extraction of teeth as a means to an end in the treatment of malocclusion, and that each case must be decided on its merit, after all phases of the individual case have been studied, weighed and analyzed. If any suggestion were made it would be that extraction should be

performed only in extreme necessity."

Let me emphasize again that the above was written by a general practitioner, a man of large experience, and of the highest ethical standards. My own observation regarding the problem of extraction is that cases requiring it are extremely rare, and in types of individuals where osseous development is far below the normal and impossible of stimulating to its proper growth and form. I have observed many cases where advocates of extraction have exhibited with enthusiasm cases which might, under more skilled treatment, have terminated in a far finer development with infinitely better service to the patient. The high standards of orthodontic treatment are exacting, and an orthodontist to be successful must continually keep himself in a physical and mental condition that allows him to give increasingly more adequate service to his patients.

SUMMARY

For the rural or small community practitioner where the skilled orthodontic treatment is beyond the reach of his patients let him become familiar with the basic principles of orthodontic diagnosis and treatment during undergraduate work at a university school, and better, if possible, take an extra year of orthodontic instruction in a good postgraduate school connected with a university dental school. He will then find that he is too well informed to waste his money on laboratory appliances, and he is too wise to be eluded into the frequent extraction of first molars or bicuspid, with the idea of bettering his patient's condition.

In the city where orthodontists are established the general practitioner's problems are in some directions less acute and in others more so. If it is the general practitioner's desire to correct malocclusion in his own office he has a legal right to do so, but his ethical right depends entirely upon his training and his ability. I have heard general practitioners say that they did

very little orthodontia in their own offices, confining their efforts to simple cases only. Now it is quite a remarkable man who is able to state, with any surety of being correct in the beginning, that any case of orthodontia is simple. That is simple enough for those who are inexperienced. If the general practitioner is able to spare the time to take a postgraduate course in orthodontics, and is able frequently to meet with and discuss problems with orthodontists he should, if he has aptitude in that direction, be able to give services to the children in his practice comparable to, or perhaps in some instances better than those which they would receive from some *so-called specialists*. But there are few men in general practice who have sufficient time to devote to this subject to reach a desirable state of efficiency.

The successful dentist of today has a good deal of a task to keep himself well informed and competent because of ever increasing advances being made in all phases of dentistry. The general man who has little or no orthodontic training in my opinion should refuse to undertake the treatment of malocclusion, but on the contrary should refer his patients to someone who is known to be skilled in the art and practice of orthodontics. He should be able to make a limited diagnosis based upon his knowledge of classification. He should realize and note the variations of growth that are within the normal limits. The general practitioner should understand also the developing occlusion so as not to be misled regarding the first molar relationship, and he should be ever on the watch for the too early loss of any member of the deciduous dentition, being especially observant regarding mandibular deciduous cuspids and over-retained deciduous teeth in any position. When he finds the dental arches retarded in development to the point where they cannot accommodate the permanent teeth he should be able to explain to the parents something about the necessary treatment, and

give them an adequate idea of the proper age that treatment should be undertaken. During the eruptive period he will know, if he has made himself familiar with the subject, that every mal-aligned tooth or slight variation of the denture does not necessarily mean that conditions are ripe for orthodontic interference, for such early manifestations are quite frequently phases of proper development.

The important thing for the general practitioner to bear in mind is to keep his perception keen for danger signs which might give warning of future maldevelopments. If he is in doubt, however, he should refer the child for examination and diagnosis to one in whom he has confidence. Many borderline cases will be found where treatment may be delayed perhaps month to month or year to year, if the orthodontist, after careful examination and careful diagnosis, has determined the wisdom of keeping the child under observation. The ability to work together in this way may save many years in treatment, and also save the parents financially as the treatment may often be confined to very short periods.

Many orthodontists as well as general practitioners have difficulty in deciding when a given case of malocclusion is ready for mechanical interference. It is much better in these matters to err on the conservative side than to be too ready to place appliances in children's mouths. It is always good practice to defer any positive action until proper records, such as models and complete radiographic history have been made, so that the operator has all available data before him.

It is during the transitory period, during the loss of the deciduous teeth and the eruption of the permanent cuspids and bicuspid, that one needs to be especially careful not to interfere with the natural developmental processes by the use of appliances which might hamper the normal growth.

It is not necessary for the general practitioner to make a complete diag-

nosis of the case, as this will need to be done anyway by the orthodontist to whom he refers the patient. After the reference has been made the responsibility for the child's future mouth condition is then to be shared by the general practitioner and the orthodontist alike. He should make frequent examination of his orthodontic patients, and there should exist between the general practitioner and the orthodontist a thoroughly professional understanding so that the patient's welfare is always the first consideration.

I believe the orthodontic patients should be examined by the general practitioner at least once in every three or four months, and that the general practitioner should not hesitate to call the orthodontist's attention to any condition that may need consideration. On the other hand the orthodontist should be willing, at all times, to remove temporarily any appliance which the general practitioner feels might interfere with his proper care of the mouth during periods of repair. If, as so frequently happens, the young patient is careless regarding prophylaxis, and there is added danger of dental caries, then the cooperation between the orthodontist and the general practitioner should be closer, and the child should have more frequent prophylaxis and general examination.

The general practitioner referring the child to the orthodontist should have absolute confidence in the character, integrity and ability of the orthodontist; and in turn the orthodontist should have full confidence in the general practitioner, and suggest frequently during the treatment that appointments with the general practitioner be attended punctually. When such a fine relationship exists between the general practitioner and the orthodontist the prognosis of the case is made more favourable.

In referring the patient to the orthodontist the thoughtful general practitioner does not assume responsibility of stating the fee. This is a matter that can be determined only by the

orthodontist after careful diagnosis, and always should be stated by him to the parents after a very thorough diagnosis of the case has been made.

One of the most important factors essential to the moral tone of any profession is the daily practice of a high order of interprofessional relationship. We call it ethics, but in the last analysis it is nothing more or less than "playing the game" according to the rules of fair play. In this strange world the wise professional man knows that there is much that passes for fact which is nothing more than fiction. I think one of the most unjust and unethical practices consists in over-stating another man's fee. As stated a short time ago men who know each other and have confidence in one another would refrain from quoting the fees in any manner whatsoever, but there are a few who either deliberately or thoughtlessly take responsibility for most ludicrous reports of fees which ofttimes have no foundation in fact. Many instances which have been brought directly to my attention when finally traced to their source have been found to have originated in the minds of men who have allowed themselves to forget their professional obligations. We know that parents frequently exaggerate the fees of their professional advisers, but that is understandable and in a measure excusable because it is so human to boast of the ability to pay large fees; but no professional man should ever be guilty of furthering exaggerated rumours regarding fees or any other matter which seriously affects a brother practitioner.

Let us consider briefly the problems confronting the general practitioner in the city who wishes to manage his own orthodontic treatments. As suggested earlier his decision should be made upon the basis of honour. As orthodontics is practised today the undergraduate course is not adequate to allow the general practitioner to give the best possible service to the child under his care. He should, there-

fore, prepare himself in every possible way, through reading and study and contacts with orthodontists of high professional ability, or better still the attendance upon a postgraduate course in orthodontics which will increase his knowledge and enhance his value to his patients. In following such a course, if he has ability, he will be conducting his practice in a praiseworthy manner. Such a general practitioner should not, however, hesitate to consult orthodontists of recognized ability whenever he is in serious doubt regarding either the proper time for treatment, or the conduct of a certain difficult phase treatment.

As already mentioned the time has come when the orthodontic needs of the children as a whole are being brought more clearly into focus. In the early days of orthodontics the practice was necessarily confined largely to that class of people who were economically self-sufficient. With the passing of the years the importance of orthodontic treatment has become more widely recognized, and greater opportunity for treatment should be given to children whose parents are unable to afford this valuable treatment.

The orthodontic specialist, therefore, has a duty to perform at least for some of these children who present unusual orthodontic problems. When we look at the subject in its entirety we are apprehensive at the extent of the field; and thoughtful orthodontists I believe readily admit their utter incompetence to deal with this situation adequately. Therefore, it is their duty always to include among their patients as many children as is possible whose parents are unable to meet financial obligations. In this way they will be doing something in a professional way to meet this urgency; and in addition they should on every occasion be willing to assist and advise men in general practice who wish to make a like endeavour to help the less fortunate. Owing to the general economic conditions prevailing for the past few dec-

ades it seems well-nigh impossible to obtain large contributions necessary for the establishment of more numerous clinics managed and conducted by competent men. The subject is one which should be harmoniously considered by the orthodontist and the general practitioner. A feeble start is all that we can at present contemplate, but a start there must be if future care is to be finally provided for the large mass of people.

Knowledge and experience carry with them a responsibility. No man possessing them has a right in these days to confine his privileges and blessings to himself alone. The dental profession as a whole has made wonderful strides in efficiency and service, but there is an insistent demand, an urgent need for the dentist to forget himself and let his knowledge, experience and ability spread out as widely as is humanly possible.

The orthodontist should consider himself the humble servant of his parent profession, and should be mindful always of his allegiance to it. He is

not a super-dentist, he is merely one who has tried to perfect himself in one neglected branch of the profession, neglected by the early practitioners of dentistry because the time had not arrived for a full understanding of its significance. Men in the dental profession who recognize in themselves ability and aptitude in this particular phase of practice, especially among the younger men, should in my opinion develop these abilities so as to more adequately meet the situation. To the general practitioner who has no ability or aptitude or desire to carry on this type of practice, I would ask his sympathetic understanding and his encouragement to those who do undertake the work. I also would suggest that for the benefit of the child, and for the furtherance of cordial relationship, criticism based upon prejudice and misunderstanding be forgotten, and that we, as a profession, become closer knit in professional understanding, professional confidence and mutual respect.

60 Charlesgate West.

ANNOUNCEMENTS

THE COLLEGE OF DENTISTRY, THE OHIO STATE UNIVERSITY, will present its post-graduate courses in dentistry during the Autumn, 1951, on the following schedule:

Sept. 24-28, Anatomy of Head and Neck, Dr. Linden F. Edwards.
Oct. 8-12, General Anaesthesia, Dr. Morgan L. Allison.
Oct. 29-Nov. 2, Partial Denture Prosthesis, Dr. Victor L. Steffel.
Oct. 29-Nov. 2, Oral Pathology, Dr. H. B. G. Robinson.
Nov. 5-9, Oral Surgery, Dr. D. P. Snyder.
Nov. 12-16, Full Denture Prosthesis, Dr. Carl O. Boucher.
Dec. 3-7, Periodontics, Dr. John R. Wilson.
Dec. 3-7, X-Ray, Dr. H. D. Spangenberg.

Offered weekly from August 6 through week of December 3, Airbrasive Technique, Dr. John P. Beckwith, Dr. Harry H. Postle, Dr. John N. Bowers.

Each course is given for five consecutive days, Monday through Friday, and the enrolment is limited to approximately ten per class. The fee is \$50 per course with the exception of Oral Surgery and Airbrasive Technique for which a fee of \$100 is charged.

Apply College of Dentistry, Ohio State University, Columbus 10, Ohio.

THE COURSES IN ORAL PAEDIATRICS LISTED BELOW will be presented throughout the academic year of 1951 and 1952. Information may be obtained from **TUFTS COLLEGE DENTAL SCHOOL**, 136 Harrison Avenue, Boston 11, Mass.

PEDODONTIA

Each Friday for the Ten Weeks from October 5 to Dec. 14, 1951
Plus Two Optional Days on Jan. 4 and Jan. 11.

Feb. 1 to April 18, 1952

Plus Two Optional Days on April 25 and May 2. Tuition \$150.00.
Dr. Frederick Shiere and Staff

PEDODONTIA

Dec. 3 to 7th, 1951. Tuition \$100.00. Dr. Frederick Shiere and Staff

PEDODONTIA

June 9 to June 21, 1952. Tuition \$150.00. Dr. Frederick Shiere and Staff.

An 1846 Dental Treatise

by J. MENZIES CAMPBELL, D.D.S. (Toronto), L.D.S. (R.C.D.S. Ont.), L.D.S.
(R.F.P.S. Glas.), F.R.S.E., Glasgow, Scotland

MANY popular treatises on the teeth were published in Great Britain in the first half of the nineteenth century. Probably the most widely circulated were:—*A Practical and Familiar Treatise on the Teeth and Dentism* (J. Paterson Clark): *Advice on the Care of the Teeth* (Edwin Saunders): and *The Art of Preventing the Loss of the Teeth* (Joseph Scott).

The chief aim of these and many others was, generally, to exalt the skill of the writers to the detriment of other practitioners. It is, nevertheless, only fair to state that, as a result of reading them, laymen were invariably stimulated to pay attention to their teeth, then so frequently neglected.

This article concerns a treatise written by Edward Miles. Before discussing it, a brief sketch of the author may afford a background for the reader.

He was a 'birthright' member of the Society of Friends (Quakers). In this connection, it is interesting to mention that many outstanding, and highly respected, dentists of bygone days were of Quaker parentage. These include:—Edward Hudson (1772-1833), Elisha Townend (1804-1858), William Henry Atkinson (1815-1891), Elias Wildman (1811-1876), John H. McQuillen (1826-1879), and James E. Garretson (1828-1895).

Edward Miles was born about 1804 in Southampton, England. His father, in due course, articulated him to a chemist and druggist there. When the period of indentureship had expired, young Miles proceeded to London, where he became assistant to a chemist, whose business was in the Haymarket. He remained with him for a few years, until he entered the employment of Mr. E. Frett, a surgeon with an extensive practice in 32, Jewry Street, London. Doubtless, Edward, while there, frequently watched his

master extract teeth: he, himself, would also perform this operation.

The experience, thus gained, so enamoured Edward Miles that he decided to become a dentist. Wisely realizing the necessity for further training, he approached a successful practitioner, with the object of gaining proficiency in the mechanical branch. A premium was paid for this tuition. Edward was certainly an apt pupil. The accuracy which he had acquired in dispensing, and the subsequent experience in extracting teeth as well as in other branches of surgery, must have proved of immense value to him in his new career.

In 1828, he began to practise dentistry, on his own behalf, at 15, Liverpool Street, Bishopsgate, London. He remained at this address until 1867, his son joining him about 1856. That his efforts proved highly lucrative is confirmed by the fact that, about 1840, he was able to purchase a country house at 12, Canonbury Square, North Islington, where he resided at week-ends and when not actively engaged in professional duties.

Although like many of his contemporaries, he expressed concern about the unsatisfactory state of dentistry, yet there is no evidence of his having taken any active steps to curb the blatant advertising then so prevalent, or to organize the profession.

In 1846, Edward Miles published a 12mo work, comprising 69 pages, which sold at one shilling-and-sixpence. The title-page reads:—

"Health, Comfort,/ and/ Longevity Promoted,/ or/ A Few Minutes Regard/ to/ THE TEETH,/ Their Preservation and Restoration by ARTIFICIAL ONES,/ with some remarks on CORRECT PRONUNCIATION,/ Precautions to MOTHERS on Dentition, etc./"

A Baxter print of an elderly man

without teeth, and the same person with a "set of the author's best artificial teeth" forms the frontispiece. The comparison is striking. Incidentally, in 1836, George Baxter invented a method—the secret died with him—of printing from the wood in oil colours.

In his Preface, Miles, somewhat unctuously, impressed upon readers the benefits which they would confer upon humanity by either sending a copy of his treatise to parents or recommending them to purchase it. He stressed his altruism, and revealed his reason for writing the book in these words:— ". . . to temper and humanize the soul, and calm the rougher passions, to favour habitual calmness and serenity of mind". They would seem to emanate from his Quaker outlook.

His chapter on gangrene (caries) of the teeth is prosy, thereby tending to obscure vital facts. He, nevertheless, emphasized a very important point, then frequently ridiculed, namely filling the temporary teeth. He stated that he, himself, had pursued this policy; and was convinced of its having conferred lasting benefit on many of his patients, by preventing irregularities in the permanent teeth.

Further, he condemned the practice, then in vogue, of filing or cutting away, instead of filling, cavities, due to caries in the permanent teeth.

Again, to quote from his treatise:—

"Whence the semi-vitality of a frame prematurely bereft of the natural teeth and replaced by artificial ones? You may find a response in the hollow cheeks,— the falling nose,— the projecting chin,— the want of vigour in the wonted expression of the eye,— the dissonance and absence of sympathy in every attempted exertion of the voice."

He riveted attention on the dire consequences of living without teeth—in efficient mastication, indigestion, inadequate nourishment and impaired abdominal viscera.

The final chapter is devoted to an exposition on the super-excellence of the author's artificial teeth. He, straightway, declared that persons, who consulted him, freely acknowledg-

ed their ability to masticate almost anything with the artificial teeth which he had fitted. In order to convince even the most sceptical, Miles stated:—

"When a set of the author's teeth is first worn, habit soon familiarizes their use, and any inconveniences gradually vanish; and the depth and fulness of the countenance are preserved, the speech is rendered distinct, and untimely declension prevented; the wearer becomes almost unconscious that he uses them, and it is not too much to believe that as comfort and health return, the period of life is prolonged many years."

In dilating on his particular methods, he remarked that:—

"The best modes of fixing teeth consist in varying and adapting the treatment, as well as the choice of the material, according to each particular case."

He affirmed that, as a base, gold was superior to ivory; and that, in some cases; porcelain teeth, in others, terro-metallic, mineral or natural, or a combination of both were indicated. He added that the proper choice was possible only by an experienced dentist.

Miles adhered throughout to the fashion, then prevailing among dental writers, of including quotations from many eminent authorities, such as John Hunter, L. S. Parmly, Joseph Murphy, John Arbuthnot, Charles Bell and Astley Cooper—all aimed at supporting the soundness of the views, which he expressed.

Notwithstanding the criticisms, that have been levelled against him, there is no shadow of doubt that his treatise is rich in sound advice, emanating from one whose knowledge, obviously, far surpassed that of many of his contemporaries.

Nevertheless, Miles was guilty of a serious error of judgment, which was reported thus in *The Medical Times* of September 19, 1846.

"Offer of a Bribe for a Good Review.

15, Liverpool-street, City.

Edward Miles presents his respects to the Editor of *The Medical Times*, if he sends his work to him, which he has recently published, will it be re-

viewed in the *next* or *following* number? E. M.'s reason for inquiry is this: he has been disappointed in some cases; the review has been put off, or else some trifling notice *only* has been taken of it, from which *no extract could be taken*. All E. M. asks for is an immediate, a fair, conscientious, and honest report of it. The title is "Health, Comfort, and Longevity promoted, &c." Sixty pages. £10 will be enclosed.

The principle on which E. M. encloses a trifling sum is because he does not consider it reasonable to suppose that an editor can give up his valuable time without some small remuneration. At the same time E. M. acknowledges that it would be more agreeable to his feelings, if it would answer as well, if he engaged for six insertions of an advertisement following the review. In that case the ten shillings which would be sent might be placed to E. M.'s credit.

A word, per return of post, will very much oblige, just to say whether, if E. M. sends the book, it will be reviewed *per very next number of The Medical Times*.

My plan is to take an extract from the review, if it is so favourable as to allow me, and to *then* advertise the work.

Thy friend, very respectfully,
Edwd. Miles

ix month, 16, 46."

Without, in any sense, condoning such foolishness, nevertheless, the words of Hamlet seem here to be apropos:—

"Use every man after his desert, and who should 'scape whipping?"

A point of considerable interest is that, today, Miles's treatise of 1846 is extremely rare. There is no copy of it in such well-known libraries as the British Museum, Royal Society of Medicine, Wellcome Historical Medical, Royal College of Surgeons, and British Dental Association; nor is it in the Library of the New York Academy of Medicine. Further, it does not appear in the Surgeon-General's Catalogue, or in the bibliographies by Crowley or Weinberger.

It is not always easy to explain why a particular book should be scarce. Very often it is an instance of the commonplace of today becoming the rarity of tomorrow; few collectors preserve a book, which is readily pro-

curable or one which, when published, seems valueless. On the other hand, if a very limited edition is printed, naturally only a small number survive the passage of time.

Here is a different reason. In 1837, Edwin Saunders published over 13,000 copies of his popular treatise, *Advice on the Care of the Teeth*. Many readers will, naturally, conclude that such a widely circulated work is, today, very easily acquired. Although not by any means a rare treatise, copies are, nevertheless, elusive. The explanation is that Saunders (later, Sir Edwin), on becoming more ethical in his outlook, was distressed at having published this treatise. Consequently, it is to his credit that he initiated practical steps to have every procurable copy located and destroyed.

In the case of Miles's treatise, its rarity would appear to be due to two main factors. The very limited number of copies printed—one authority is of opinion that it was probably in the region of 200; and collectors of Baxter prints eagerly acquire it, solely because of the excellence of its frontispiece.

Nevertheless, Miles's treatise like others of a similar nature, played its rôle in the dissemination of knowledge. Consequently, we, of today, should hesitate to condemn too severely tactics, which served a most useful purpose, and which were commonplace a century ago.

And now to conclude this article on a non-dental note!

Doubtless, Edward Miles sincerely regretted his impulsiveness of September 16, 1846, because it is pleasing to record that he remained a staunch member of the Society of Friends.

In fact, in 1852 and 1859, he published treatises (both in the British Museum), entitled respectively:—

- (a) *Oath taking superseded by truth speaking. The Anti-Christian and lie promoting tendency of the cheap use of oaths, and* (b) *Quaker difficulties — Dress—Women's Preaching — War, etc. delineated in a friendly dialogue.*

Dentifrices and Toothbrushes

by J. N. STEWART, D.D.S., Hamilton, Ontario

ABOUT twenty years ago I became acutely conscious of the good and bad effects of tooth brushing, and especially as to the disastrous effects of using abrasive pastes and poorly designed brushes with stiff bristles. Hundreds of cases of cavities at the gum line and eroded areas at the gingival, caused by faulty brushing, have been referred to me to be restored with porcelain inlays. In view of the seriousness of this subject I would like to present some of my findings that may correct this condition which is becoming more prevalent day by day.

During the days when we had natural bristle brushes several factors entered into the case, namely the shape of the brush, texture of the bristles and the dentifrices used.

About forty years ago a group of prominent dentists made a survey. I will briefly outline some of their findings and recommendations. Pastes or powders sweetened with sugar or syrup instead of saccharin were condemned; dentifrices containing harsh abrasives such, as powdered cuttle bone, pumice, etc., were also condemned. The brush recommended was of medium size with a tuft on the end. This survey was of inestimable value to the manufacturers and the public. A minimum of damage was observed until about twenty years ago when some of the manufacturers departed from these recognized principles. About that time a paste was introduced which was abrasive and a brush came on the market made with the reverse curve, that is, humped up in the centre. Since that time I have noticed an increasing number of eroded areas on the labial and buccal surfaces and especially at the gingival third of the tooth. In many cases

these eroded areas almost expose the pulp.

The purpose of this article is to try and point out what is safe, the things to avoid and also to induce the manufacturers to supply the public with that which we can approve.

DENTIFRICES

I heartily disapprove of the negative approach so I will first discuss my findings regarding powders and pastes, then brushes, and lastly, gingival cavities produced by decay. Regarding tooth powders and pastes, it is normal and proper that we should have a variety within safe bounds but we should make sure they are safe. I believe the Council of Dental Therapeutics of the A.D.A. in Chicago could enlighten the profession as to the ingredients of the various dentifrices and the relative abrasive action (not fineness) of each, especially those nationally advertised; also whether they contain starch or sugar. I used to admire the policy of the Kolynos Co., who for years published the formula of its paste. It was, and I believe is, an excellent product, but I believe there are many other dentifrices of equal value whose formula and ingredients should be known to the profession. Since the manufacturers do not reveal what their product contains I have made a sufficient number of tests to satisfy me that many of the products on the market are not as safe as they should be.

Manufacturers may claim that the polishing agent in their dentifrice is almost as fine as talcum powder, but you should not be fooled by such a statement. To illustrate: if you had four powders of equal fineness, chalk, pumice, silica and diamond dust, their abrasive action is entirely different.

Diamonds are ground and polished with diamond dust. If diamonds can be ground and polished with diamond dust, teeth can be ground away by any ingredient as hard or harder than the teeth regardless of how fine the ingredient is. Every dentist realizes that pumice is far more abrasive than whitening or chalk. I believe any polishing agent with crystals harder than precipitated chalk is dangerous. I, personally, would condemn the use of pumice, cuttle bone, powdered silica or insoluble sodium metaphosphate regardless of how finely they are powdered. Another factor may be involved which should receive some attention. Sulphonated alcohol (synthetic soap) which, I believe, is being used instead of soap, is a more efficient detergent than soap, but its efficiency in removing greasy film may increase the action and friction of bristles and polishing agents in dentifrices. If this is a factor, and I must confess I don't know, in order to have the efficiency of sulphonated alcohol which I consider superior to soap, maybe it is another reason why we should use softer bristle brushes and safer polishing agents in our dentifrices.

BRUSHES

Regarding Brushes: I do not place much importance in the freaky handles that are featured, so I will devote my time to a discussion of the size, shape and texture of the brush proper. The opinion I hold is based on questioning hundreds of patients with eroded areas, for more than twenty years. The most efficient and safest brush seems to be one with three rows of soft bristles of medium size with a tuft on the end. The one that seems to do the most damage is one that has departed farthest from the findings of the research men over forty years ago who advised a tufted brush. The brush which is humped up in the centre seems to produce the largest number of eroded areas, and seems to be the least efficient, espe-

cially in the second and third molar areas. The brushes with a straight edge, that is, all the tufts of the bristles of relatively the same length, seem to fall in between the two groups just mentioned.

I am well aware of the fact that the majority of dentists recommend brushing the teeth from the gum down and the use of smaller brushes but I am forced to be a realist, and accept what John Public does, and the results that I see constantly. While the shape of the brush is important, the texture and stiffness are even more important. Since natural bristles are almost impossible to procure, we are faced with synthetic bristles whether we like it or not. For many years I have tried to induce manufacturers to produce a softer bristle brush, and the druggists to stock them, but I have met with disappointment. I finally presented the problem to the Canadian Industries Limited. Through them I have been able to obtain brushes with bristles ranging in size from .005, .007, .009, which are finer than anything on the market. The size of the bristles are measured in thousandths, so 5-7-9 etc. mean thousandths. In testing these brushes with several hundred patients I became conscious of one thing, namely, that in trying to pick a synthetic bristle brush we have lost sight of the most important difference between natural and synthetic bristles. Natural bristles soften in water but synthetic bristles do not: so in order to simulate as much as we can, the feeling of natural bristles *when wet*, we must choose a much finer synthetic brush because they do not soften in water like the natural bristles.

In order to obtain public opinion and observe results during 1948 I gave away about five gross of brushes with no obligation except to give me their honest opinion. In 1949 I ordered twenty-five gross distinctly marked—"Prescription 5," "Prescription 7," "Prescription 9." From this survey I

have come to the conclusion that tooth brush bristles for the average user should be .005, and never stiffer than .009. To feel the brush .005 with your fingers, the first reaction is that it is far too soft, but after using it for a few days people realize that they can brush their teeth and gums without fear of injuring the soft tissues. This freedom from fear enables them to brush all areas more efficiently. Cleaner teeth and healthier gums are the results.

I would suggest that the profession demand all brushes be stamped, denoting the size of bristle in the brush. This would enable the public and dentist to make a proper evaluation of the whole problem.

GINGIVAL CAVITIES

Let us now consider cavities produced by decay at the gingival third of the teeth, which seem to be on the increase. This condition seems to be caused by food habits, improper brushing and using too stiff a brush. This group of patients complain of bleeding gums and so develop the habit of brushing the teeth without brushing their gums, which naturally leaves a film at the gingival. This film can be found even though the patients claim they have brushed their teeth immediately before coming to the office. Under this film is white decalcified areas and decay. They should be switched to softer bristle brushes that will allow them to brush teeth and gums without injury, and be instructed how to brush their teeth. Do not brush in a straight line either up and down or cross-wise. Use a rotating or massaging movement which will clean all areas and not cut grooves. Another cause of this type of decay is sucking mint candies, candy-coated

gum or other confections to sweeten the breath. This constant supply of sugar provides an ideal medium for the growth of bacteria and decay. We have been told that we should drink milk to supply the body with bone and tooth building materials, but to the best of my knowledge no one has mentioned that you should always rinse the mouth after drinking milk because milk will ferment and produce lactic acid, a cause of decay. This film of milk left on the teeth may account for the bewilderment of patients who drink quarts of milk and have more than the average number of cavities. Please don't misquote me and say that I am opposed to milk drinking. Milk and milk products are valuable foods, but you should clean your teeth after drinking milk.

I hope this article re-awakens the profession to the need of safe dentifrices and brushes, and that the manufacturers will not only profit but cooperate by supplying the public with safe brushes and dentifrices. The brushes now stamped soft, medium and hard are at best only relative. They should be stamped with the size of the bristle such as .005, .007, .009 etc., so that the dentists will know what he is prescribing for his patients. Manufacturers, as a whole, seek to satisfy public demand. The public look to us for guidance so let us accept the responsibility that is ours. "Safety first," should be our motto.

In closing, please remember that eroded areas and decay do not just happen. They are the result of some cause. If we are to practise preventive dentistry, repairing the damage done, with fillings, is not enough. We should seek to eliminate the cause.

"Lots of people know a good thing the minute somebody else sees it first."

"Subtlety is the art of saying what you want to say, and getting out of range before it is understood."

Case Report

by STUDENT IN FACULTY OF DENTISTRY, University of Alberta

1. The patient, a 40 year old, 190 lbs. male of Scottish descent, appeared at the University of Alberta Dental Clinic for periodontal treatment on January 10, 1951. In the ensuing two months, routine conservative measures of treatment were undertaken. The case was diagnosed as a periodontitis with a principal aetiology of neglect (poor oral hygiene, calculus, stain, etc.), and the condition responded rather favourably to the above mentioned therapy.

2. On March 14, 1951, oxygen was applied by means of the Dunlop insufflation machine to the soft tissues of the mandible. This treatment was considered advisable to increase tissue tone prior to a gingivectomy, which was to be carried out at a subsequent appointment, and was to involve the area from the mandibular right second bicuspid to the mandibular left cuspid. The oxygen was applied by means of a fine needle tip at a pressure of 12 lbs./sq. in. The needle point was inserted into the gingival crevice and, where pockets were present, to the depth of the pockets. The needle point was kept in continuous motion at all times, and both buccal and lingual aspects of the mandible were covered twice as no lymphatic flash was noticeable. During the second application to the interproximal

tissues between the mandibular right central and lateral, a flash was observed at the muco-buccal fold. Instantaneously a swelling occurred midway between the muco-buccal fold and the lip. The needle tip was immediately removed and the machine turned off. The involved area was gently massaged to stimulate the circulation and thus speed absorption of the trapped oxygen. At subsequent appointments the area was observed and it was noted that the swelling was gradually becoming smaller. The tissues in the area appear normal other than their distension, there is no discolouration and the patient reports that at no time has there been any pain in the area.

3. On June 11, 1951, the patient reported that the area had reduced in size to that of a small pea, and that in the three month interval since the incident, he had had no pain nor trouble with the swelling. The only subjective finding he reported was an awareness of the increase in size—an awareness only produced by his tongue running over the location intermittently.

4. From this statement and from the history, it would appear that the area is fortunately resolving itself in a most pleasant, unembarrassing and uncomplicated fashion.

ANNOUNCEMENTS

COURSE FOR DENTAL HYGIENISTS:—The University of Toronto has approved the establishment of a two-year course for dental hygienists to be given by the Faculty of Dentistry commencing September, 1951. A previous announcement of the establishment of this course has been delayed pending approval at the various stages in the plans for the course. Members of the dental profession are urged to bring this matter to the attention of any young women who might be interested in this type of education. For further details apply to the Dean, Faculty of Dentistry, University of Toronto, 230 College St., Toronto 2-B, Ontario.

ANNUAL FALL CLINIC OF THE MONTREAL DENTAL CLUB, Montreal, November 21-23.

THE 1951 ANNUAL A.D.A. MEETING will be held in Washington, D.C., October 15-18.

NORTHERN ONTARIO DENTAL ASSOCIATION

See Page A-42 (Advertising Section)

The Forum

OXYGEN THERAPY

by ROWE SMITH, D.D.S., Texarkana, Ark.-Tex.

From the Bul. of the Oklahoma State Dental Assoc., Jan. 1951

Although oxygen has been employed as a periodontal therapeutic aid with varying degrees of success throughout the world since its introduction over 30 years ago by the originator, Dr. William F. Dunlop, it is surprising that dental literature makes no mention of its especial value in the treatment of Vincent's infection. My experience has been that oxygen therapy is the most effective means for rapidly stopping the progress of Vincent's infection, eliminating aetiologic factors, aiding in repair of the tissue damage without further injury, and preventing recurrence.

Oxygen is a periodontal therapeutic agent which differs from all others, in that it acts favourably within the tissues as well as on them. This action changes the character of the gingival and mucosal tissues so that they become more resistant to infection.

Orban has shown that unusually large numbers of plasma cells, which denote chronic inflammation, accumulate in the tissues adjacent to periodontal lesions. (Many pathologists have noted that this condition is peculiarly confined to the oral tissues.) Poor oxidation seems to cause plasma cells. Increased oxygen improves cell oxidation. Following periodontal treatment (without oxygen therapy) these cells are reduced in number; however, usually excessive numbers remain after clinical symptoms have disappeared and tissue repair seems to have taken place. This may explain why there is a tendency for a recurrence or tissue reversion after treatment of all

types of periodontal diseases in which oxygen has not been employed as a part of the treatment, and periodically as a prophylactic measure. Wherever tank oxygen or nascent oxygen is properly administered, these plasma cells disappear and an active mesenchyme tissue replaces the plasma cells. Employment of both forms of oxygen seems to give improved results. For this reason, any type of periodontal treatment will give better results if oxygen therapy is employed in conjunction with it.

Where oxygen is properly employed in the treatment of Vincent's infection it destroys the accompanying anaerobic organisms, helps to nullify the bacterial toxins, and aids in the elimination of necrotic tissue which protects bacteria from drug action. It replenishes the partially depleted oxygen tension of the affected tissues, reduces venous stagnation and improves local tissue metabolism and resistance. The local hyperaemia produced rids the cells of inflammation in the debridement of destroyed tissues and in carrying away the waste products, which helps to bring about rapid repair of the damaged tissues.

Often complete control or a cure cannot be accomplished in Vincent's infection by any single form of treatment because the condition is frequently complicated by the presence of supragingival and subgingival calculus, gingival pockets, and flaps where the lesions are super-imposed upon the epithelial lining of the pocket, faulty contacts, and by nutritional distur-

bances. In these cases, all the various aids known, such as scaling, subgingival curettage, gingivectomy, exodontics, restorative dentistry, and correction of nutritional deficiencies, must be employed diligently if periodontal health is to be established and maintained.

In uncomplicated Vincent's infection oxygen therapy alone will produce a cure.

In many cases an acute Vincent's infection is accompanied by severe systemic disturbances. The temperature may be as high as 104 degrees Fahrenheit. The patient may complain of severe pain, loss of appetite and body weight, and extreme malaise; and often the crevicular lymph nodes are tender and enlarged. Blood examination usually shows a moderate elevation of the white cell count and an increased sedimentation rate. Within 24 hours after the first oxygen treatment, general improvement of the patient's condition is readily noted. He is able to take nourishment, his temperature returns to normal, and extreme weakness and malaise are greatly lessened. All pain is eliminated almost immediately and extreme soreness and tenderness disappear in 12 to 36 hours.

Oxygen therapy has a distinct advantage because no mouth washes or other home medication is required. This prevents self treatment, which often terminates disastrously and also the tendency for patients who have had Vincent's infection to attempt to treat other members of their family or friends, which often permits the disease to become chronic, with irreparable loss of vital periodontal and dentule tissue.

It appears that nearly all of the various types of gingivitis are complicated by the bacteria associated with Vincent's infection, and that the form of lesions produced, extent and rapidity of tissue destruction and other complications depend mainly upon the general resistance of the patient, virulence of the organisms and their local environment. Why in the large major-

ity of cases the Vincent's lesions will be confined to the interdental tissue, while occasionally the Vincent's lesions will spread to contiguous tissues, I do not know.

Oxygen has also proved to be very effective in the treatment of sub-acute Vincent's infection and all types of gingivitis, such as hypertrophic (including the type caused by sodium dilantin therapy), haemorrhagic, pregnancy, adolescent and desquamative.

When oxygen is judiciously employed as a periodontal therapeutic aid, desirable clinical changes can be readily observed, such as a change in gingival colour from the ischemic and many red, bluish, deep purple or cyanotic shades that the gingivae and oral mucosa take on when affected by the various types of periodontal disturbances or diseases, to a normal rosy pink colour, chronic, slow, sporadic gingival haemorrhage ceases and gingival oedema subsides. The gingival tissues lose their loose, flabby condition and are restored to a more normal contour. A decrease in the abnormal mobility of the affected teeth may be noted.

Since oxygen therapy seems to control or prevent tissue proliferation or hyperplasia of the type associated with sodium dilantin, adolescence, pregnancy, etc., it is very possible that the lack of oxygen in the gingival and contiguous tissues could be the cause or main contributing cause for gingival proliferation. In nearly all types of periodontal disease it appears that in some manner the tissues are deprived of the required amount of oxygen, and it seems that the favourable tissue changes which are observed following adequate oxygen therapy are due to the artificial increase of oxygen in the tissues, which helps to restore their integrity. (In other words, oxygen therapy is artificial respiration for impaired periodontal tissues.)

Failure to employ oxygen in periodontal treatment is an unnecessary handicap in obtaining and maintaining the maximum favourable result.

VITAMINS

by CHAUNCEY W. WYCKOFF, M.D.

Condensed from Jour. of Ohio State D. Assoc., May 1951

Vitamin A is essential for growth, for vision and the integrity of all epithelial tissues. It is this vitamin which contributes most to the development of the fifty-two human teeth. It is to be found most abundantly in carrots, green leafy vegetables, squash, sweet potato, liver, milk and egg yolk. Without this vitamin, epithelial cells which have a secreting or chemical function in addition to that of a cover, all undergo the same characteristic change, that is, the normal epithelial cells are replaced by so called stratified or hardened epithelium. This vitamin appears to increase the circulation in the collagen substances just under the epithelial tissues.

As to Vitamin B Complex, more is being discovered each day as to its complexity and increased value. So far 12 of its component substances have been isolated in crystalline form. While it may not act as directly on mineral assimilation as other vitamins, it exerts a great influence upon their absorption through enhanced digestive juice secretion and through better functioning of the blood cells, and improved enervation of various organs and systems of the body. Liver and yeast are two very abundant and dependable sources of natural B complex. The individual crystalline forms should not be relied upon too strongly.

As to Vitamin C, it exercises two functions (a) that of a so called respiratory enzyme ferment or coenzyme, that is, giving tissue circulation a needed impetus and (b) a regulatory function with respect to colloidal condition of intracellular substances. This

aids in the more active formation of the intracellular matrix or collagen substance. The effect of withholding and giving Vitamin C on connective tissue, bones, teeth and blood vessels, is a well known experiment. The lack of C is responsible for the clinical signs of scurvy, as spongy bleeding ecchymotic gingiva, delayed teething, submucosal and skin capillary haemorrhages, sensitive periosteal coverings and joint sensitiveness and anaemia.

For the past twenty-five years pediatricians have prescribed cod liver oil from birth. Now in recent years we are prescribing continued dosage of vitamins A, D and C through the age of fourteen years, in order to promote the best possible adult bone growth and permanent tooth structure. Also along with these vitamins, one quart of milk daily. It has been the practice of the writer also to prescribe dicalcium phosphate very generously and I am positive it has been of great benefit to many a child. Hence the prime problem in mineral requirement hinges upon calcium, phosphorus and iron. Consequently more research has been devoted to these three elements. There is abundant evidence to show that calcium is not all well utilized from every source and that milk calcium is retained better than vegetable calcium. Much to the consternation of everyone it has been demonstrated not so long ago that the high oxalate content of spinach renders it practically useless as a source of calcium and perhaps iron, for the same reason. The increased use of calcium when fruits are liberally taken may be due to the vitamin content.

REMOVAL OF LABIAL FRENUM*From Jour. of Oral Surgery, Jan. 1951*

Q.—When should a labial frenum between spaced central incisors be removed?

A.—It is advisable to wait until the maxillary incisors and cuspids have

erupted. The space then is closed by orthodontic treatment before surgical excision of the frenum. The resultant scar tissue assists in the retention of the closure.

PUBLIC DENTAL SERVICES OF THE WORLD — NEW ZEALAND

by J. LLEWELLYN SAUNDERS, B.D.S., F.D.S.R.C.S.

Director, Division of Dental Hygiene, New Zealand Department of Health

Condensed from International D. Jour. March 1951

The modern broad conception of a health service is that it should be available to all, be preventive in character, and aim to produce in a nation or in a community that "state of complete mental, physical and social well-being," which, in the words of the World Health Organization, constitutes health. It is axiomatic that dental health must be included in this definition, and the broad principles apply equally in this field. In order to apply these principles, it is clear that central or local governments must accept the responsibility for such services.

New Zealand, one of the self-governing Dominions of the British Commonwealth, has a population slightly less than 2,000,000. There are 735 dentists in active practice, of whom 80 are in public dental services. New Zealand has a good health record. In common with other civilized countries, however, it has a high incidence of dental caries, especially among children. There is reason to believe that it might even be higher than in other countries.

The pre-European Maori who originally inhabited New Zealand appeared to have had a very high degree of immunity to dental caries. Clearly there has been a marked deterioration in the standard of dental health in New Zealand in the course of little more than a century.

New Zealand has an extensive system of public hospitals which are controlled by elected hospital boards. On the dental side, development has tended to lag. Only five of the thirty-seven hospital boards maintain a dental department staffed by full-time dental surgeons. Other hospital boards, however, have agreements with local dental practitioners to carry out any urgent treatment required for inpatients, and for such outpatients as qualify for relief.

The National Dental Service, with its two divisions, the school and adolescent services, is the major public dental service in New Zealand. It is administered and controlled by the division of dental hygiene of the New Zealand Department of Health. Its personnel numbers between 800 and 900, and includes some 50 dental surgeons, 550 school dental nurses, 200 student dental nurses, and 30 dental operating room attendants. The unique feature of the school dental service is its dental nurse personnel, and this has attracted wide attention.

Training is in the hands of the Department of Health and not of a university. This is a matter of fundamental policy. It is considered important that as auxiliary personnel, dental nurses should be trained in their own school, and not in the atmosphere of a university dental school. The dental nurses undergo an intensive course which in the space of two years makes them proficient in their own particular field, namely, the routine dental care of children of pre-school and primary school age. Special attention is devoted to instruction in health education. Due attention is also given to organization and administration so as to ensure uniformity in these matters throughout the Service.

Having completed their training, school dental nurses are appointed to one of the 500 dental clinics which are attached to primary (and intermediate) schools throughout New Zealand. They work singly or in pairs according to the size of the school or group of schools that is under their care, and are appointed on a ratio of 1 to 500 children. Clinics are built to standardized plans to house either one or two nurses. Every child is made dentally fit on entering school at five years of age (or earlier if possible), and is given such treatment as is necessary

every six months thereafter. Every endeavour is made to enrol children of pre-school age, but for obvious reasons it is not always easy to secure their attendance.

Treatment by school dental nurses is standardized as far as possible, and consists of prophylaxis, topical application of sodium fluoride, fillings in permanent and deciduous teeth, and extractions (with local anaesthesia only) where necessary. Root canal treatment is not practised, but capping of clean traumatic exposures is routine treatment that has proved successful. Dental nurses are taught to recognize malocclusion and to recommend treatment by a dentist. The records are designed in such a way that every child's name is brought to notice every six months, and the fact that the child has been called up, examined and treated each half year is duly recorded with all necessary details.

Supervision and control are exercised through the principal dental officers of the six dental districts into which the Dominion is divided for administrative purposes.

The organization of the school dental service is founded on the basic principle of prevention—the maintenance of good health, rather than only the treatment of disease.

The dental service for adolescents was introduced in 1947.

The ultimate aim is to provide den-

tal service for adolescents through the medium of a full-time salaried service, but until sufficient dental surgeons can be recruited to staff such a service, private practitioners are carrying out the work on a fee-for-service basis as a Dental Benefit under Social Security.

Eligibility for dental treatment as an adolescent is contingent upon a person having undergone regular dental care up to within three months of the time of application, either at a School Dental Clinic or at the hands of a private practitioner.

From a figure of 114 extractions per 100 fillings in 1921-1922, a steady reduction occurred until the ratio was reached in 1946, of 6.3 extractions per 100 fillings, and it has remained at or about that figure.

The attitude of the child towards dental treatment has undergone a change. New Zealand children have long since come to regard dental care as a normal part of their life. It holds no terrors for them, and they cheerfully attend their school dental clinic, looking on it merely as part of school routine.

To sum up, it can be said that the result of nearly thirty years of organized dental care and health education has been to establish a high standard of dental health in New Zealand children by bringing dental diseases under control. The ultimate aim is prevention, and, with the help of research, this may yet be achieved.

DIAGNOSIS AND TREATMENT OF MONILIASIS

From Jour. of Oral Surgery, Jan. 1951

Q.—How is thrush diagnosed and treated?

A.—Thrush, or moniliasis, is an inflammation of oral mucous membrane of infants and the debilitated adults with a lack of mouth sanitation. The lesions appear as adherent, smooth, white, raised patches which are diagnostic along with identification of the causative organism, *Oidium albicans*,

by smear technique. Thrush is a contagious problem in nurseries.

Treatment is chiefly the improvement of oral hygiene. Recovery is thought to be accelerated by mild alkaline mouth washes and by swabbing the lesions with 1 per cent gentian violet or 2 per cent ferric chloride several times a day. Under this routine the lesions clear in about a week.



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Editorial

OXYGEN THERAPY

In the manuscript section of this issue of the Journal there appears a Case History on Oxygen Therapy from the University of Alberta which is of unusual interest. In the Forum Section of this issue there is an article on this same subject by Dr. Rowe Smith. As Dr. Smith points out this method of treatment was instituted by Dr. William F. Dunlop over thirty years ago.

A number of years ago I became interested in this procedure and made extensive enquiries about its use from prominent periodontists in the United States. One outstanding leader in this field said, before a meeting of the American Academy of Periodontology, that his machine was in his attic and that anyone could have it if they would cart it away, that infection was driven into the tissues by the use of it and that he had driven infection down into the shoulder of a patient. Another leader said that he had puffed up the breast of a patient and the breast had to be massaged in order to reduce the swelling. Another periodontist of international reputation had driven sufficient oxygen down into the larynx to cause excessive coughing which lasted for some time and was the cause of some alarm. However, in the Case Report referred to above there was no cause for any alarm.

In spite of these unfavourable reports I was deeply interested in this form of therapy and following some kind instruction in the technique of treatment from Dr. Harold Box of Toronto, I proceeded to use it with very gratifying results. On account of the unfavourable background, as just outlined, I decided to keep track of the number of cases treated so that if trouble arose

I could state just what my experience had been. This was easily accomplished by placing the letter "o" opposite the patient's name on the Daily Work Sheet, simply adding them up at the end of the day and transferring the total to a book kept for the purpose. This procedure became a habit so that I can now say with accuracy that I had given 11,500 treatments previous to two months ago. From this experience I can also say, with some assurance, that this procedure is fool proof where there is any reasonable understanding of the technique.

Dunlop added certain drugs to the oxygen and for several years I used the Dunlop preparation, but this involved sending the tank twelve hundred miles to be filled and was expensive and troublesome. For some years now I have used pure oxygen and find it just as effective. As Dr. Smith states, oxygen therapy is artificial respiration for impaired periodontal tissues and can be used effectively in all types of gingivitis.

Some years ago, before the age of antibiotics, a prominent periodonist in the U.S.A. reported to me a very interesting case in which the patient had a severe Vincent's angina. The throat was seriously involved and was progressing to the point where the physician in charge was becoming alarmed for the patient's life. This physician sought the assistance of the periodontist who took his Dunlop machine over to the hospital and blew oxygen into the patient's throat for about fifteen minutes. There was spectacular and prompt relief, followed by an uneventful recovery. I have not had occasion to use oxygen for this purpose but have used it in many conditions of mouth pathosis, and so from personal experience I can recommend its use.

M.H.G.

CORRESPONDENCE

To the Editor,

The remote possibility has just struck me that someone, after reading my article on *F.D.S.R.C.S. Edin.* might, not unnaturally, wonder how I succeeded in ascertaining the information as to the reasons for refunding the twenty guineas, as stated in my concluding paragraph.

I would, therefore, mention that, in a letter, which I wrote on March 22, 1951, to the Secretary of the Royal College of Surgeons of Edinburgh, I informed him that, as I was writing an article on the above-mentioned subject for an overseas journal, I, naturally, desired it to be as comprehensive and as accurate as possible.

In an official reply, dated March 31, 1951, the Secretary of the Royal Surgeons of Edinburgh stated:—

"... I note that you are engaged in preparing an article on the Fellowship in Dental Surgery of the Royal College of Surgeons of Edinburgh... you may have heard that an election fee was charged to those on whom the F.D.S. without examination was conferred. I think it proper, therefore, to inform you that the fee was charged owing to an administrative misunderstanding and has therefore been refunded... and if I can be of further service please let me know."

Signed, J. Menzies Campbell
Glasgow, Scotland.

Canned orange juice, which is heated during the pasteurization process, compares favourably with fresh juice as to vitamin C content.—Health League of Canada.

BOOK REVIEW

Oral Rehabilitation by Jerome M. Schweitzer, B.S., D.D.S. Consulting Dental Surgeon, Woman's Hospital, New York City; Postgraduate Instructor in Prosthetics, First District Dental Society, New York City; Associate Fellow New York Academy of Medicine; Fellow American Academy of Dental Medicine. 1161 Pages, Illustrated, Price \$23.00. C. V. Mosby Company, St. Louis, Mo. Canadian Agents: McAinsh & Co. Ltd., Toronto.

After twenty years of assembling material for this publication, the author has produced a worth-while addition to dental literature. The assembling of almost a thousand references and the hundreds of photographs and diagrams is in itself a colossal task.

The author has a pleasing way of presenting

his arguments in that he gives the ideas of others, some conflicting, then his own and lets the reader draw his own conclusions.

The chapters on the muscles of mastication and the anatomy, movements, diseases, etc., of the temporo mandibular joint are outstanding.

The final chapters are reports of cases completed in the author's practice including techniques followed and also a review of each after many years' service in the patient's mouth. They vary from the simplest technique using a plain hinge articulator, up to the most complicated using the gnathoscope.

This book can be read with interest and advantage by every dental specialist but for the prosthodontist and the general practitioner who does any oral rehabilitation it is a must.

HARVEY W. REID.

ROYAL CANADIAN DENTAL CORPS NEWS

Lt.-Col. G. E. Shragge has returned from an inspection tour to Korea.

Major E. C. Purdy has recently been posted to the Instructional Staff of the RCDC School, Ottawa. Major Purdy was born in Medicine Hat, Alberta, graduated in Dentistry from the University of Toronto in 1933 and joined the Corps in 1942, serving continuously since that time.

Captain J. Durand has recently been promoted to the rank of Major. Major Durand was born in St. Lambert, Que., attended Joliette College, St. Mary's College and the University of Montreal, receiving the degrees of B.A. and D.D.S. and on graduation in 1944 was appointed to the RCDC in the rank of Lieutenant.

Captain R. G. Docks, who served with the RCDC during World War II and held the rank of Major on retirement in 1946, has been re-appointed to the Corps. Captain Docks attended McGill University and graduated in Dentistry in 1921. He has been in private practice in Shawville, Quebec, since his retirement from the Service.

The first Annual Competition for the Moore Trophy has closed and the winner will be announced shortly. The Reserve

Force Companies in the finals were No. 1 Coy., London, Ont.; No. 3 Coy., Edmonton, Alta.; No. 10 Coy., Saskatoon, Sask., and No. 39 Base Dental Coy., Montreal, Que.

The following 1951 graduates from Canadian Universities have been appointed in the rank of Captain to the RCDC Active Force:

Capt. J. D. Bourque	Dalhousie University
Capt. J. McGaughey	Dalhousie University
Capt. W. H. Murray	McGill University
Capt. H. J. Smart	McGill University
Capt. J. Vincelli	McGill University
Capt. E. J. Small	McGill University
Capt. R. J. Pyne	McGill University
Capt. P. L. Faulkner	McGill University
Capt. J. E. Gauthier	University of Montreal
Capt. P. E. Fafard	University of Montreal
Capt. J. P. G. Guay	University of Montreal
Capt. E. F. Shaunessy	University of Toronto
Capt. T. D. Joslin	University of Toronto
Capt. D. H. Skinner	University of Toronto
Capt. R. G. McNabb	University of Toronto
Capt. J. W. Jolly	University of Toronto
Capt. R. L. Villard	University of Toronto
Capt. C. J. Sivell	University of Toronto
Capt. W. R. Paige	University of Toronto
Capt. D. C. Elliott	University of Alberta
Capt. J. V. P. Chatwin	University of Alberta
Capt. C. M. Gullekson	University of Alberta

"Two of the most flexible possessions you may have are a minute and a dollar. Either can be as large or as small as you are yourself."

CANADIAN DENTAL ASSOCIATION NEWS**FROM THE OFFICE OF THE SECRETARY**

Dr. A. G. Racey appointed to Board of Governors:— Notification has been received from the Registrar of the College of Dental Surgeons of the Province of Québec that Dr. A. G. Racey of Montreal has been appointed as representative on the C.D.A. Board of Governors to succeed the late Dr. J. K. Carver. Dr. Racey has been a member of the Québec Board for some years. He was graduated from McGill University in 1937 and has practised in Montreal since graduation. For several years Dr. Racey has occupied the positions of Associate Professor of Oral Pathology at McGill University and also Professor of Oral Pathology at University of Montreal, which necessitates the giving of lectures in both English and French.

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Ontario Regulations for Dental Hygienists

The By-laws which follow received sanction by Order in Council of the Ontario Legislature on April 23rd, 1951.

By-Laws Passed by the Board Under The Dentistry Act
DENTAL HYGIENISTS INTERPRETATION

1. In these by-laws "registrar-secretary" means the person appointed by the board as registrar and secretary of the College.

ESTABLISHMENT OF DENTAL HYGIENISTS
2. An ancillary body known as "dental hygienists" is established.

3. Dental hygienists shall consist of those persons who are registered under these by-laws as dental hygienists.

4. No person shall act as a dental hygienist unless she is registered under these by-laws.

DELEGATION

5. There is delegated to dental hygienists

- (a) the performance, under the direct control and supervision of a member of the College, of the services of cleaning and polishing teeth,
- (b) the giving of instructions and demonstrations in oral hygiene and mouth care, and
- (c) the following dental duties of a minor nature
 - (i) administering first aid,
 - (ii) taking radiograms, and
 - (iii) topical application of medicaments for caries-control.

ADMISSION TO COURSE OF STUDY

6. (1) Any female person who is of the age of 18 years and holds standing

- (a) in 9 papers of the Department of Education known as Grade XIII papers as follows:
 - (i) 2 papers in English,
 - (ii) 2 papers chosen from algebra, geometry and trigonometry-and-statistics,
 - (iii) 2 papers chosen from botany, zoology, physics and chemistry,
 - (iv) 2 papers in any one language chosen from French, German, Greek, Spanish and Italian, and

(v) one paper not already chosen from the options in clauses ii, iii or iv,

or

(b) equivalent to the standing in clause a as determined by the Minister of Education may make application for admission to the course of study prescribed by by-law 8.

(2) The application shall be in Form 1 and shall be submitted to the registrar-secretary.

7. An applicant who furnishes proof to the satisfaction of the Board that

- (a) she is of the age of 18 years,
- (b) she has obtained the standing required by clause b of subsection 1 of by-law 6, and
- (c) she possesses the aptitude, capacity and character to become and act as a dental hygienist

shall be admitted to the course of study prescribed by by-law 8 as a student dental hygienist.

COURSE OF STUDY

8. The course of study for student dental hygienists shall comprise two years of 32 weeks each of instruction in the following subjects:

- (a) anaesthesia
- (b) bacteriology
- (c) chemistry
- (d) child psychology
- (e) dental anatomy
- (f) dental materials
- (g) dental pathology
- (h) dental prophylaxis
- (i) diet and nutrition
- (j) first aid
- (k) general anatomy
- (l) general and dental histology
- (m) general and oral hygiene
- (n) office assistance
- (o) pharmacology
- (p) physiology
- (q) public health in dentistry, and
- (r) radiology

EXAMINATIONS

9. (1) The Board shall prescribe examinations for registration as a dental hygienist upon the subjects prescribed by by-law 8.

(2) The registrar-secretary shall conduct or cause to be conducted the examinations referred to in subsection 1.

(3) Examinations shall be held at least once in each year after the completion of each period of 32 weeks of instruction in the municipality where the course of study is conducted.

REGISTRATION

10. (1) Every student dental hygienist who
 - (a) is the age of 20 years,
 - (b) has completed the course of study prescribed by by-law 8, and
 - (c) has passed the examinations prescribed by by-law 9

may apply to the registrar-secretary for registration as a dental hygienist.

(2) The application for registration shall be in Form 2.

11. The registrar-secretary shall register as a dental hygienist any applicant referred to in by-law 10 who

- (a) pays the treasurer of the College the registration fee prescribed by by-law 22, and
- (b) furnishes proof to the satisfaction of the Board that she has complied with the requirements prescribed by by-law 10.

12. (1) Any female person who

- (a) is of the age of 20 years,

- (b) has graduated from a school outside Ontario recognized by the Board as requiring qualifications for admission and providing a course of study equivalent to those required under clause b of subsection 1 of by-law 6 and by-law 8,
- (c) possesses the aptitude, capacity and character to become and act as a dental hygienist, and
- (d) has passed the examinations prescribed by the Board under by-law 9 may apply to the registrar-secretary for registration as a dental hygienist.
- (2) The application shall be in Form 3.
- 13. The registrar-secretary shall register any applicant under by-law 12 who
 - (a) pays to the treasurer of the College the registration fee prescribed by by-law 22, and
 - (b) furnishes proof to the satisfaction of the Board that she has complied with the requirements of by-law 12.
- 14. On and after the 1st of January 1954, no person shall be registered as a dental hygienist unless she
 - (a) is a Canadian citizen,
 - (b) is a British subject, or
 - (c) furnishes proof to the satisfaction of the Board that she intends to make application for Canadian citizenship within a reasonable time after she is qualified to make the application.

THE REGISTER

- 15. (1) There shall be a register of dental hygienists containing the names of persons who are entitled to registration under these by-laws.
- (2) The register shall be maintained by the registrar-secretary.

CERTIFICATES OF REGISTRATION

- 16. (1) The registrar-secretary shall issue a certificate of registration as a dental hygienist in Form 4 to every person whose name appears on the register.
- (2) The certificate shall be signed by the president of the College and the registrar-secretary.
- 17. A dental hygienist employed by a member of the College shall display her certificate of registration in a conspicuous place in the office of the member.

RENEWAL OF CERTIFICATES

- 18. Every certificate of registration shall remain in force during the calendar year in which it is issued and until the date of renewal prescribed by by-law 19.
- 19. Every registered dental hygienist shall pay annually to the treasurer of the College the fee prescribed by by-law 23 on or before the 1st of February and upon payment thereof the registrar-secretary shall issue a certificate of renewal of registration.
- 20. The registrar-secretary shall remove the name of any dental hygienist from the register who does not pay the renewal fee as prescribed by by-law 23.

FEES

- 21. All fees shall be payable to the Treasurer of the College.
- 22. The fee for registration under by-law 11 or by-law 13 shall be \$25.
- 23. The fee for renewal of a certificate of registration shall be \$2.
- 24. (1) Where the name of any dental hygienist has been removed from the register under by-law 20 and that dental hygienist pays a registration fee of \$5, the secretary-registrar shall register the dental hygienist and thereupon issue a certificate of renewal of registration.
- (2) At least 60 days before the 1st of December in each year the registrar-secretary shall notify each dental hygienist that the annual fee is due at the end of the year.
- (3) The notice shall be sent by prepaid post

addressed to the dental hygienist at her address appearing on the register.

- 25. Except as provided by by-law 17 and except to a member of the College, a dental hygienist shall not
 - (a) by exhibiting, displaying or permitting to be displayed any sign or notice, or
 - (b) by otherwise advertising
- (c) registered as a dental hygienist, or
- (d) engaged or about to become engaged in the practice of dental hygiene.
- 26. (1) Where the Board, after a hearing, finds that a dental hygienist
 - (a) has been guilty of
 - (i) incompetence,
 - (ii) improper or dishonourable conduct in respect of the dental practice of her employer, or
 - (iii) failure to comply with the Act or these by-laws,
 - or
 - (b) has been convicted of a crime that affects her fitness to practise

the Board may revoke or suspend the registration of that dental hygienist and remove her name from the register.

COMMENCEMENT

- 27. (1) These by-laws, except by-law 8, shall come into force on the thirtieth day after publication in the Ontario Gazette under The Regulations Act, 1944.
- (2) By-law 8 shall come into force when approved by the Lieutenant-Governor in Council upon the recommendation of the Minister of Health.

THE BOARD OF DIRECTORS OF THE ROYAL COLLEGE OF DENTAL SURGEONS OF ONTARIO.

.....
President

.....
Secretary

Form 1

The Dentistry Act

APPLICATION FOR ADMISSION

AS A STUDENT DENTAL HYGIENIST

I apply for admission to the course of study for student dental hygienists.

I enclose for perusal and return birth certificate and certificate of Grade XIII standing, and I submit herewith the following information:

- 1. Name in full
- 2. Permanent address
- 3. Temporary address
- 4. Date and place of birth
- 5. Education
- (i) Name of school attended
- (ii) Location
- (iii) Time in attendance
- (iv) Date of completion of course
- (v) Graduation diploma or certificate obtained

6. References

Dated at this day
of , 19

Signature of applicant

Form 2

The Dentistry Act

APPLICATION FOR REGISTRATION

AS A DENTAL HYGIENIST

UNDER BY-LAW 10

I apply for registration as a dental hygienist. I have completed the course of study for a student dental hygienist and have passed the examinations prescribed for admission to

registration as a dental hygienist. I enclose \$25 registration fee payable to the Treasurer of the Royal College of Dental Surgeons, and submit the following information:

1. Name in full
 2. Permanent address
 3. Temporary address
 4. Date and place of birth
 5. Citizenship
- DATED at this day
of 19 day

Signature of applicant

Form 3

The Dentistry Act

APPLICATION FOR REGISTRATION AS A DENTAL HYGIENIST UNDER BY-LAW 12

I apply for registration as a dental hygienist. I have passed the examinations prescribed for admission to registration as a dental hygienist in Ontario. I enclose \$25 registration fee payable to the Treasurer of the Royal College of Dental Surgeons, and submit the following information:

1. Name in full
2. Permanent address
3. Temporary address
4. Date and place of birth
5. Citizenship

6. Preliminary education
7. Name of secondary school attended
- (i) Location
- (ii) Time in attendance
- (iii) Graduation diploma or certificate obtained
8. Education as a dental hygienist
9. References

DATED at this day
of 19 day

Signature of applicant

Form 4

The Dentistry Act

CERTIFICATE OF REGISTRATION AS A DENTAL HYGIENIST

This certifies that
name of person
of is registered
address
as a dental hygienist.
Date

Signature of President

Signature of Registrar-Secretary

NEWS FROM THE PROVINCES

ONTARIO

Essex County Dental Association held its final meeting of the season as a picnic on June 17. It was an outing for the whole family.

The new Executive for the ensuing year includes:

President Dr. Bernie J. Nolan
1st Vice-President .. Dr. E. M. Warren
2nd Vice-President Dr. Al. Cook
Sec.-Treasurer Dr. Jack Fuller

The Toronto Study Club of Dental Technicians held its annual banquet and election of officers and executive for 1951-52 at Muirhead's Restaurant, Toronto, on April 11, 1951.

The evening was a great success throughout, starting off with refreshments at 6.30 p.m., which gave the Toronto members a grand opportunity to exchange news and views with the out-of-town members who were present en masse. The Club was pleased to have as dinner guests: Mr. Art Gee, Dental Co. of Canada; Mr. Tom Gallagher, Handy & Harman of Canada Ltd.; Mr. Walter Gildner, Handy & Harman of Canada Ltd.; Mr. Stan Tebbutt, Dominion Dental Company; Mr. Charlie Pierce, Ash Temple Company; Mr. Charlie McKenna, S. S. White Company; and Mr. Wilf. Greenwood, National Refining Company. Following the dinner entertainment was provided by the Bennie Silvertone Trio.

The retiring President, Mr. Charles

Mellish, opened the business meeting by thanking the Officers and Executive for their splendid work throughout the past year. Mr. Mellish, of course, neglected to say just what a grand job he himself had put forth in the past, and he is certain to be an inspiration to those following in his footsteps. A very enthusiastically received report was given by the Treasurer, Jack Washbrook, showing a profitable year for the club, thus ensuring a very profitable year to come. Geoff. Tebbutt, Chairman of the Sick Committee, was very happy to report no sickness or casualties in the Club at the present time. W. T. Spence

BRITISH COLUMBIA

Every second year, the **Pacific Coast Dental Conference** meets in one of the Western States, or Canadian Provinces. This year, the Conference was held in Seattle, Washington, late in June. Thousands of dentists from the Western States, British Columbia and Alberta attended the meeting in perfect west coast weather.

Under the capable chairmanship of the genial Dr. Frank Wood, the four day meeting was opened on June 25, in the Seattle Auditorium. The Auditorium served as Conference Headquarters, and its several small lecture halls accommodated the intimate lecturers, while the main floor supplied generous space for the magnificent dealers' displays. The principal speakers, addressing the main

assembly, gave their lectures in the adjoining Ice Arena, and the many table clinics were also set up in this building.

The Conference was officially opened by the Governor of the State of Washington. In his address he emphasized the important place held by the profession in formulating public opinion, in their day to day contacts. He spoke of the need for tempering the ever increasing demand for social services, which, if not abated, would result in the ultimate loss of individual enterprise.

The addresses of Dr. Harold Oppice, President of the American Dental Association, and of Dr. Don Gullett, Secretary of the Canadian Dental Association, were highlights of the sessions of the second morning. Another outstanding lecture of the morning was Dr. L. Ennis, President-elect of the American Dental Association, on "X-ray Diagnosis." Much favourable comment was heard of the addresses of Drs. A. W. Ward, Thaddeus Gregory, Carl O. Boucher, W. J. Simon and James Robinson.

Every phase of clinical dentistry was covered in the numerous fine table clinics, chair clinics, and motion pictures. As usual, the principal difficulty experienced was in endeavouring to cover all the material offered. Dental assistants and technicians were also represented in the table clinics.

The social program was well prepared, and voted most successful. On Monday night, while the men attended various fraternity and class dinners, the ladies were royally entertained at the Tennis Club. On Tuesday evening, the President's party was held at the beautiful Englewood Golf Club—about eighteen miles out of the city, and about thirteen hundred guests partook of the lavishly prepared dinner, served buffet style, and eaten at tables under a huge marquee tent. Ample refreshment and dancing rounded out a perfect evening, long to be remembered by those present. A square dance was provided for Wednesday evening, and on the final evening "The Student Prince" was staged at the open air theatre at Green Lake.

British Columbia was well represented at the meeting, both by ordinary members, and by lecturers and clinicians.

The next Conference will be held in California.

At the business meeting of the **British Columbia Dental Association**, held at Seattle during the Conference, the following officers were elected:

President—

Dr. John Ingledew, Vancouver

President-elect—

Dr. Leslie Marshall, Vancouver

Secretary—

Dr. George Creasy, Vancouver

Treasurer—

Dr. D. J. Sutherland, Vancouver

Directors—Dr. Max Nacht, Vancouver

Dr. W. B. Milburn, Victoria

Dr. Charles Whitworth, of Vancouver, was appointed Chairman of the Convention Committee for 1952, when the Association will join with the Canadian Dental Association in presenting the Convention in Vancouver.

About thirty-six candidates presented themselves for the **examinations** under the College of Dental Surgeons of British Columbia at Vancouver in July.

At the regular business meeting of the **Fraser Valley Dental Society**, held at Abbotsford in May, Dr. W. S. Trafton, of Chilliwack, was voted President. Dr. R. G. Foster, also of Chilliwack, accepted the position of Secretary tentatively. District Chairman elected were Drs. W. S. Paterson, of White Rock; D. K. Stratton, of Mission City; A. H. Patterson, of Abbotsford, and W. G. Newby of Chilliwack. Dr. Jack Barber, of Chilliwack, presented a clinic on "The Preparation of the Mouth for Immediate Dentures."

L. G. R.

ALBERTA

The Albertans who were in attendance have been most generous in their praise for the **Winnipeg Convention**. Their one desire is that the 1953 edition of the Western Canada Dental Society may be as successful.

Dr. John W. Clay was elected President of the Western Canada Dental Society at Winnipeg. Dr. A. C. Steeves, President of the Alberta Dental Association, and Dr. W. Scott Hamilton, Dean of the Faculty of Dentistry, University of Alberta, were both present to offer congratulations on behalf of their respective groups.

L. K. B.

Edmonton and District Dental Society:

—At the last regular meeting of the Edmonton Dental Society, on May 8, Dr. Sperry Fraser gave a most interesting paper on "Maxillo-Mandibular Relations." Dr. Fraser illustrated his talk with a film which he and his assistants made at the University of Alberta.

Dr. H. F. Whittaker and Dr. A. B. Mason were proposed for honorary life membership in the Society.

The following executive was elected for the session, 1951-52:

President Dr. R. B. Cameron

Vice-President Dr. W. A. McIver

Secretary Dr. J. D. McLean

Treasurer Dr. R. B. Blaquiere

Social Convener Dr. G. A. Brass
 Directors .. Dr. J. W. Neilson, Dr. E. Wilkinson.

Approximately fifty dentists from all the compass points of Alberta met at Lacombe on May 27 for the Annual Golf Tournament. The Edmonton Dental Society acted as hosts, with Dr. E. Wilkinson again chairman of their Golf Committee. Despite being caught in a down-pour the golfers kept out of "the rough" thereby carding exceptional scores. Dr. C. M. Johnson managed an "81." Numerous prizes were distributed to the players by Dr. R. R. McIntyre. After his remarks several present were requested to tell stories. Drs. Ben Eastwood and Hec McLean won the prizes in this department. It is unfortunate but these prize winning stories cannot be included in this report. The Golf Committee under direction of Drs. E. Wilkinson, Duncan, Sparrow and Atkinson were thanked by all present. All are looking forward to the 1952 tournament.

The Calgary Dental Society has elected the following executive for 1951-52:

President Dr. R. T. Shillington
 Vice-President Dr. L. K. Brooks
 Sec.-Treasurer Dr. A. A. Downey
 Dr. R. Ehlerl was appointed as chairman of the Telephone Extension Course.

The Calgary Dental Society held its opening Golf Tournament for 1951 on June 15 at the Golf and Country Club. Dr. Wright of Stettler and Dr. Alexander of Nanton arrived to take most of the prizes. Dr. Glenn Pullar introduced Mr. H. J. MacDonald, K.C., M.L.A., President of the Calgary Bar Society as the guest speaker. Dr. A. E. Wilson brought a message from the Calgary Medical Society. Dr. J. Walker then delivered a few stories from his vast collection. The Golf Committee of Drs. Atkinson, Sparrow and Duncan were thanked by all in the usual manner. Dr. Pullar then closed the meeting until the next tournament—the last Friday afternoon in July.

L. K. B.

BRITISH COMMONWEALTH NEWS

GREAT BRITAIN

The expressed views of the responsible bodies representing **dental technicians** render it highly improbable that the suggestion, put forward by the Dental Technicians' Association, that dental technicians should be permitted to take impressions of the mouth and fit dentures will receive any support in responsible quarters. A knowledge of the very extensive literature on prosthetic dentistry would, however, we think, convince most educated men that the matter is not so simple as at first sight it might appear to be. Sir Norman Bennett's dictum "that a knowledge of the anatomy and physiology of the jaws is essential for anyone who sets out to restore, as nearly as possible, by artificial appliances the normal functions of the normal jaws, and that even more difficult problems await those who have to deal with the abnormal formations of the jaws so common at the present day without adequate knowledge of their pathology" has, if anything, gained force since it was first written. — Br. D. Jour.

The New Grant-in-Aid:—The proposal of the Government to make a charge to the patient of half the cost of dentures is a bad effort to correct the result of a fundamental error.

For some time now the main interest of the Government in the Dental Service has been that of Finance. The cry is "How can we save money?" not "How can we improve the service?"

The strange thing is that both can be done at once. By imposing a percentage charge on the patient for all work done, the only effective form of control is established. If the patient had to pay even a small proportion of the fee there would be far less likelihood of assistants being expected to do fifteen fillings an hour, see thirty to sixty patients a day, or insert dentures in two visits. One day it will be realized that control can not be exercised from Whitehall without those for whom it is most needed finding a way round, and others who are trying to give a good service being impeded in their work.

The proposed alternative is an act of unfairness which is bewildering. The patient who has dentures early will need for their replacement during the next twenty or thirty years, a total sum far less than that required by one who keeps his natural teeth by frequent conservative treatment. Yet the patient who will very likely be less costly to the service, and who because of his environment has in many cases only one type of treatment open to him, is compelled to pay a sum towards his treatment, while others more fortunate, escape.

Of all the ways of saving money which could be devised this seems to have the least to be said for it from any point of view. It is unjust, it will be deservedly unpopular, and while it destroys the idea of a service free for all it does not establish any other principle. We are getting deeper into the maze.—Editorial in Dental Record.

GENERAL NEWS

Dental Council of Canada Examination Results, June 13, 1951

Listed below are the certificate numbers and names of the successful candidates at the examinations held May 21-26th, 1951:

1759—Bannerman, John Allan	1734—Jones, Raymond Richardson
1765—Baxter, Sidney James	1748—Kerby, William A.
1766—Bona, Andrew Daniel	1733—Laffin, Michael Alexander
1760—Bourgeois, Adelard Etienne	1732—Landrigan, James Percy
1767—Bourque, Joseph Daniel	1786—Mandin, Louis G.
1777—Braden, Donald Oliver	1787—Marriott, Cecil James
1768—Caldwell, Gordon Wallace	1747—Metrick, Lionel
1755—Campbell, Frederick A.	1731—Mooney, Monica Eucharist
1754—Crawford, Robert	1788—Muller, Sydney William
1744—Crosson, Paul Ryerson	1730—Murray, William Henry
1778—Demco, Thomas	1789—Myers, George William
1743—Denovan, William Gordon	1771—McCarron, Peter Francis
1769—DeWare, Ralph Baxter	1772—McGaughey, James
1742—Dixon, Robert D.	1729—Nixon, William Alexander
1741—Earle, Jack MacGregor	1773—Northrup, Donald Lloyd
1796—Elliot, Joseph Siegel	1774—Orser, Gerald George
1740—Falkner, Peter Lefevre	1790—Paterson, Barney Harold
1779—Fleming, Stuart	1795—Preston, C. Staples
1739—Fox, Edward Joseph	1775—Ramsay, George Laurence
1738—Fraser, Robert James	1756—Rondeau, Paul Lorne
1737—Gavriloff, Thomas Johnson	1776—Sansom, Reginald Forbes
1753—Gelley, T. Fraser	1791—Shields, John Marty
1736—Gibson, James Alexander	1761—Shapera, Martin George
1780—Goodfellow, Joseph Sterling	1762—Shortill, William Walker
1752—Goodwin, Harold William	1728—Smart, Henry James
1751—Gray, Kenneth Charles	1792—Smith-Windsor, Brooke
1781—Gullekson, Clifford Leslie	1746—Stechishin, Walter Lew
1770—Halford, Ernest Dougan	1733—Street, George Wesley
1750—Haryett, Rowland Dalton	1763—Tregobov, Harry
1782—Haven, Constance Pauline	1758—Trowbridge, Norman Floyd
1783—Hertz, Alexander John	1727—Waddell, John Calvin
1784—Hopkins, Henry Tooley	1726—White, Lee Jackson
1735—Jackin, Peter Michael	1745—Wright, William C. P.
1785—James, John M. L.	1764—Yaholnitsky, Stephen
1749—Jarvis, Albert	1794—Zacherl, Walter
1757—Johnson, Cecil Elliot	

American Dental Association Principles of Ethics: The Association points out that the maintenance and enrichment of the heritage of professional status places on everyone who practises dentistry an obligation which should be willingly accepted and willingly fulfilled.

The following are some of the statements found in this code, which have been greatly condensed:

1. The dentist should continue his education through all of his professional life.

2. He must place first his service to the public rather than gain for himself.

3. He has the obligation of making himself a part of a professional service and of observing its rules of ethics.

4. He should be a leader in his community in all efforts leading to the improvement of the dental health of the public.

5. He has an obligation to attend to an emergency treatment for the patient

of another dentist, referring the patient back to his own dentist.

6. He should supervise auxiliary personnel and not delegate to a person less qualified any service which requires the competence of a dentist.

7. He should seek consultation when advisable.

8. He should not refer disparagingly to the services of another dentist in the presence of a patient.

9. He may not secretly accept rebates, split fees or commissions from any source associated with the service rendered to a patient.

10. He should not dispense or promote the use of drugs or other agents when the composition is secret.

11. Patents or copyrights are permissible only when the primary purpose is the protection of the public and the profession.

12. The use of advertising to solicit pa-

tients reflects adversely on the dentist who employs it and lowers public esteem of the dental profession.

13. Cards and letterheads should conform to the custom of other dentists in the community.

14. Signs should also conform to custom.

15. Announcements of changed address should only be sent to dentists, members of the health profession or to patients of record.

16. Titles or Degrees should not be used for promotion of any drug, agent, instrument or appliance.

17. The term "clinic" should not be used if it may mislead the public.

18. He may indicate the limitation of his practice if consistent with the custom of dentists of the community.

19. He may list his name in a directory as customary with dentists in the community.

20. He may participate in a program for the education of the public if action is taken through the appropriate agency of a dental society.

Food Dollar Now Worth 40 Cents Says Health League Nutritionist: Cost of a basic weekly food budget for a family of four was \$10.80 in March 1939, and is now up to \$25.95, according to Margaret Smith, Ph.B., M.Sc., director, Nutrition Division, Health League of Canada.

Writing in *Health Magazine*, Miss Smith points out that the wage earner in such a family, working at the current average industrial wage of \$45 per week, must now work for two and one-half weeks in every month just to buy the groceries.

"This is a serious situation from the point of view of the health of the Canadian people," writes the veteran nutritionist. "Many of our people are obviously unable to buy the foods they need for proper nutrition; and the situation is becoming increasingly serious as food prices continue to rise. One particularly unfortunate feature is that inflation seems to hit hardest the home grown foods containing proteins which are absolutely essential for health and children's development."

New Health Insurance Plan: A new kind of health insurance that may mean lower premiums is now being considered by doctors and insurance people. It would work something like "deductible" automobile insurance: the subscriber would pay the small bills out of his own pocket and the insurance policy would take care of the large ones. Details are being worked out by the California Physicians' Service and other medical care plans.—*San Francisco Chronicle*.

Course in Dental Assisting: The course in dental assisting, which leads to eligibility for the Certification Examination given by the American Dental Assistants' Association, now is open for registration for the class starting in September. The course will be completed early in May, 1952.

This course was given last year at the Washburn School as a cooperative endeavour of the Chicago Dental Assistants' Association, the Chicago Board of Education, and the Chicago Dental Society.

Any dental assistant who is employed by an ethical dentist and who is a member of the Chicago Dental Assistants' Association is eligible to enter the course. The cost will not exceed \$50.00.

A.D.A. Convention: Colour television of surgical procedures will be one of the new features at the 92nd annual session of the American Dental Association to be held October 15 to 18 at Washington, D.C.

Advance reservations indicate that the four-day meeting will be attended by more than 15,000 dentists and members of their families from all parts of the nation.

The scientific portion of the meeting will be presented at the National Guard Armory. In addition to the television clinics, every phase of dentistry will be discussed by more than 80 essayists at 11 scientific sections. There will also be 200 table clinics, 50 scientific exhibits and a continuous program of scientific films.

Pentothal Sodium in Oral Surgery—Ralph C. Rudder, M.D., D.D.S., and O. Kenneth Johnson, D.D.S., report in *Current Researches in Anaesthesia and Analgesia* that the **Contraindications** for the use of pentothal sodium-nitrous oxide combination would be anaemia (red blood cells 3,000,000 or less); respiratory obstruction, as in asthma; pneumothorax, tuberculosis, acute involvement of the upper respiratory passages; severe hypotension (under 100) and hypertension (over 200); cardiac decompensation, Ludwig's angina, or dyspnoea. The normal patient can tolerate the anaesthesia and offers no special problem as a patient for dental anaesthesia. In anaemia classical signs of oxygen-want are not exhibited and dangerous hypoxia may result without visible warning. These patients require a high percentage of oxygen in the gas mixture.

Thumb Sucking—F. G. Gibbs, F.R.C.S., F.R.C.P.E.D., L.D.S., in his Presidential address before the Odontochirurgical Society of Scotland had this to say about thumb sucking.

This practice has special significance for the dentist, and particularly for the

orthodontist, because of the problem of deformity. The orthodontist feels that malocclusion must be avoided at all costs, but we must ask ourselves if malocclusion of the personality is not more serious than malocclusion of the teeth. The need to get solace and comfort from sucking is the most powerful craving of early life, and when it persists into later childhood this symptom is answering a bodily need that is imperative. If it is met with forcible restraint (for example by the use of mechanical devices, or worse yet, by shame and ridicule) the craving simply seeks another outlet which may be more serious so far as the developing personality is concerned, than a continuation of the practice of thumb sucking.

Public Health Dentists meet in Montreal:—Dentists, who are employed in Dental Public Health Services, held their inaugural meeting as a Dental Section of the Canadian Public Health Association in Montreal, May 28-31, 1951.

Dr. Hugh R. McLaren, Assistant Chief of the Dental Division, Department of National Health and Welfare, and Chairman of the Public Health Dentistry Section, guided the deliberations of this inaugural meeting, held in the Mount Royal Hotel. Dr. A. B. Sutherland, Director of the Dental Division, Department of Health, Sudbury, headed the committee on convention program. Beside the regular Section session, at which Dr. F. McCombie, Director of the Division of Preventive Dentistry, Department of Health of British Columbia, presented a paper on "Fundamental Dental Data required for Evaluating the Progress of a Community Dental Program," a joint session was arranged with the Public Health Nursing Section. The program included the following papers:

"The Public Health Nurse in the Dental Field" by Miss Irene Lawson, Supervisor of Public Health Nursing, Welland and District Health Unit.

"A School Dental Program" by Dr. Clarence Bouillon, Dental Officer of the Department of Health, City of Montreal.

"Dental Health for the Preschool Child," by Dr. G. K. Clarke, Dental Officer, Halton County Health Unit.

Miss Brigitte Laliberte, Chief Nurse of Department of Health, City of Montreal, acted as Moderator with Dr. A. B. Sutherland as Chairman of the Joint Session. A very active discussion period followed in which the interest and desire of the nursing group to be of assistance in the dental program was very evident. A strong desire was expressed to have more knowledge of the dental aspects of health. This, they pointed out, should be given in the public health nursing course in all Schools of Nursing, and through

short courses for those now actively engaged in public health nursing.

During the Thursday morning session of the Public Health Administration section, Dr. Hugh R. McLaren presented a paper on "Community Dental Health Programs."

A business session considered future plans for section activity. A request to undertake the study of the qualifications, training and duties of the Public Health Dentist came from the C.P.H.A. Committee on Professional Education, through the Faculty of Dentistry, University of Toronto representative, Dr. Glenn T. Mitton. Dr. Frank Kohli, Director of Dental Services of the Department of Health of Ontario, was appointed section representative. A committee consisting of Dr. Harry Brown, Chief of the Dental Health Division, Department of National Health and Welfare, and Dr. Robert Grainger, research fellow at the Faculty of Dentistry, University of Toronto, were appointed to study the problem of a common system of evaluation for community dental health programs.

The nominations committee, under the Chairmanship of Dr. Kohli, presented a draft of officers for 1951-52. Those elected to direct the Dental Section's activities were:

Honorary Chairman—

Dr. Hugh R. McLaren
Chairman Dr. A. E. Chegwin
Vice-Chairman .. Dr. A. B. Sutherland
Secretary Dr. F. McCombie

Committee Chairmen

Program Dr. Glenn T. Mitton
Membership Dr. G. K. Clarke
Dr. P. J. Bonneau

Local Arrangements.. Dr. H. R. Stewart

The next annual meeting of the Canadian Public Health Association will be held in the Fort Garry Hotel, Winnipeg, June 17-20, 1952. The Chairman for next year, Dr. A. E. Chegwin, who is the Director of Dental Services, Department of Public Health of Saskatchewan, and Dr. H. R. Stewart, who holds a similar position in the Department of Public Health for Manitoba, will look for the backing of every dentist interested in Public Health. Your membership in this Dental Section will strengthen our hand in placing Dentistry as an integral part of the health services. G. T. Mitton, Toronto

University of Illinois Third Annual Telephone Program:—Thirty new dental societies already have indicated their desire to participate in the University of Illinois' third annual series titled "Current Advances in Dentistry," which will be transmitted by telephone on a national hookup in 1951-52.

New subjects and an entirely different

faculty have been chosen for the five lectures which will be given monthly from November, 1951, through March, 1952. Subjects are "Dental Caries," "The Denture and the Temporomandibular Joint," "Normal and Abnormal Occlusion," "Advances in Dental Radiology," and "Oral Infections."

The programs will be reduced this year to an hour and a half.

Two hundred and fifty-eight dental societies and dental study clubs participated in last year's program.

Unionization of Dental Laboratories:—

In the interests of finding out just how the general membership felt about the unionization of dental laboratories, a special meeting of the Chicago Dental Society was held on May 4 to discuss the situation. Nearly 800 members of the Society were in attendance.

Most of the audience was in agreement with the expressed opinion that unionization activities have no place in a business which is wholly dependent upon one of the health professions for its existence, and whose employees, if subject to the whims of union leadership, could be called out on strike, thus disrupting a very vital health service.

Medical Care Plans Grow:—Nonprofit medical care plans are showing a remarkable growth throughout the U.S.A. There are now 72 Blue Shield plans in 41 states; 113,000 out of the 150,000 active, practising physicians are participating in their operation. Last year Blue Shield paid out \$150,000,000.00 for surgical and medical services rendered to member patients. Blue Shield is enrolling 28,000 members a day and now has a total membership of 17,000,000.

Blue Cross hospital plans also show a remarkable growth. They added some 2,000,000 new members in 1950, making their total enrollment over 40,000,000.

Add to these plans the voluntary health insurance coverage of the insurance companies, and it is safe to say that between 70,000,000 and 72,000,000 Americans now have protection on a voluntary basis.—F. Rev. Chic. D. Soc.

Tooth Brushing:—The common practice of brushing the teeth in the morning on arising and in the evening before retiring has little effect in combating tooth decay, three dental scientists declared in The Journal of the American Dental Association.

The scientists found that in order to be effective dentrifices must be used immediately after eating—especially after eating refined carbohydrates such as sugar. Even dentrifices containing substances such as ammonia will have no effect when used only in the morning and evening, they reported.

The three researchers were Dr. Leonard S. Fosdick, of Northwestern University Dental School in Chicago, and Comdr. William E. Ludwick and Capt. C. W. Shantz, of the Navy Dental Corps at Great Lakes, Ill.

On the basis of a laboratory study of the length of time that certain antibiotics cling to the film on the teeth, the scientists reported "the only compound that imparts a lasting effect in the mouth is penicillin."

The fact that the other substances did not cling to the film may be "an explanation as to why they are not effective when used morning and night in a dentifrice and why they are effective only when used during or after the ingestion of sugars," the scientists concluded.

Practical Nurses:—At the present time, there are 179 organized training programs for practical nurses in the United States and its territories. Of this number, 103 are conducted under vocational education auspices in 29 states, the District of Columbia, and Hawaii, the majority of the remaining 76 programs are conducted by hospitals.

Practical nurse training varies from state to state and within states. While the average program is one year in length, some states also have programs of nine months and eighteen months, each purporting to prepare practical nurses. The curriculum usually follows the pattern of professional nursing: a preclinical period of instruction of three or four months is followed by a clinical period of about eight or nine months.

Hail to the Champions:—For the 23rd consecutive year the graduates of St. Paul's Lutheran School of Melrose Park, U.S.A., met the requirements of a caries-free graduating class and have joined 1319 pupils who have graduated in that period to retain the title of world champions.

For this effective job of dental health education St. Paul's Evangelical Lutheran School was awarded a certificate of distinguished effort by the Illinois State Dental Society and the Illinois Department of Health.

Moral force is, unhappily, no substitute for armed force, but it is a very great reinforcement.—Winston Churchill.



SEPTEMBER 23, 24, 25, 26, 1951

Your Last Reminder...

Register to-day and complete your plans to be in Ottawa for the annual convention of the Canadian Dental Association, and a vacation in our Capital city. Write Dr. H. N. Beach, 150 Metcalfe St., Ottawa, for hotel accommodation. Send cheque for \$15.00 registration fee.

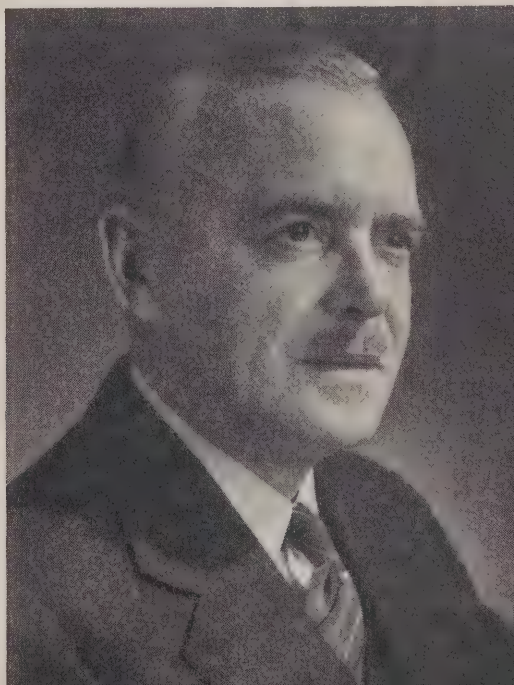
Our Luncheon Speaker

Monday, September 24

will be

our Prime Minister

RT. HON. LOUIS ST. LAURENT →



IN MEMORIAM

William Alexander McLean of St. Catharines, Ontario, aged 75, died at his home on June 4.

Dr. McLean was graduated from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1897. He began his practice in St. Catharines in 1902 and has continued there until his death.

He has been an honorary member of the Royal College of Dental Surgeons of Ontario since 1947. He was also an honorary member of the Niagara Peninsula Dental Society. He was a member of First United Church, and a past member of St. Catharines Board of Education.

Dr. McLean was a member and past master of Temple Lodge A.F. and A.M. and a past deputy grand master for his district. He was also a member of Scottish Rite.

He is survived by his widow, two sons and one daughter.

Charles Wilson McBride, of Kingston, Ontario, aged 77, died on May 8.

Dr. McBride was graduated from the Royal College of Dental Surgeons of Ontario in 1901. He practised in Smith Falls until 1934 when he retired.

He has served on Smith Falls Council, and for many years on the Public Library Board. He was a member of Trinity United Church and an honorary member of the Board of Stewards. He was a member of St. Francis Lodge A.F. and A.M. and a past district Deputy Grand Master for the district. He was a past president of the Curling Club.

Dr. McBride is survived by his widow, and four daughters.

Hugh Arnold Semple of Toronto, Ontario, aged 63, died on May 29.

He was graduated from the College of Dentistry of the Royal College of Dental

Surgeons in 1909. For many years Dr. Semple practised in Toronto. He served in the Royal Canadian Dental Corps in both wars and was discharged with the rank of Major in 1946. He was then appointed dental officer for the Township of York. He served as a member of the Oral Hygiene Committee of the Canadian Oral Prophylactic Association for many years. He was a member of Windermere United Church and president of the Ontario Lawn Bowling Association.

Dr. Semple is survived by his widow, two daughters and two sons.

Robert James Rose Bright of Palmerston, Ontario, aged 63, died on May 14.

He practised in Winnipeg until 1948 and was Chief Dental Officer of the city for many years. He was graduated from the College of Dentistry of the Royal College of Dental Surgeons, in 1917. He was graduated from medicine in 1909.

Dr. Bright is survived by his widow.

George Benjamin Ryan of Toronto, Ontario, aged 87, died June 8. He was graduated from University of Pennsylvania in 1885 and practised in Paris, France until 1940 when he established a practice in Saint John, New Brunswick. He retired in 1949, moving to Toronto.

Dr. Ryan is survived by his widow, three daughters and two sons.

Charles Alexander Fitzpatrick of Toronto, Ontario, aged 76, died June 23 after a long illness.

He was graduated from the Royal College of Dental Surgeons of Ontario after which he went to Manitoba. He practised in Vernon, Brandon and Winnipeg and more recently in Rosetown, Saskatchewan before moving to Toronto.

Dr. Fitzpatrick is survived by his widow and one daughter.

DIRECTORY

Canadian Dental Association Headquarters—234 St. George Street, Toronto, Ontario.

Matters relating to the publication of manuscripts or news items for the English Section of the Journal should be addressed to the Editor-in-Chief, Dr. M. H. Garvin, 314 Somerset Building, Winnipeg, Manitoba.

Matters relating to the French Section of the Journal should be addressed to the French Editor, Dr. G. de Montigny, 400 est Blvd. St. Joseph, Montreal, P.Q.

Matters relating to the business of the Journal should be addressed to the Business Manager, Dr. Don W. Gullett, 234 St. George Street, Toronto, Ontario.

All changes of address should be sent to Dr. Gullett before the 20th of the month, to become effective the following month.

Matters relating to advertising should be addressed to the Advertising Representative, Mr. Carl J. Hinch, Consolidated Press, 73 Richmond Street W., Toronto, Ontario.

L'emploi des agents hémostatiques absorbables en mélange avec des antibiotiques dans les cavités osseuses.*

par J. ARMAND SENECAI, D.D.S., Montréal

Introduction

Le contrôle de l'hémorragie durant et après une intervention chirurgicale est un problème qui a toujours intéressé le praticien. Pour cette raison, de nombreux agents ont été employés, mais ils ont plus ou moins donné satisfaction.

Après l'énucléation d'un kyste maxillaire volumineux, la cavité ainsi formée est ordinairement remplie de gaze iodoformée, qui est laissée dans la cavité de 48 à 72 heures, une première fois; elle est ensuite changée toutes les 24 heures jusqu'à la formation d'un tissu de granulation. Dans le cas d'un kyste suppurant, un drain de gaze iodoformée est placé entre les sutures et changé toutes les 24 ou 48 heures, assurant ainsi le drainage de la cavité par l'évacuation directe du pus.

Depuis quelque temps, l'emploi d'agents hémostatiques absorbables par plusieurs chirurgiens pour la régénération des cavités osseuses annonce une ère nouvelle encourageante tant par les résultats obtenus que par la facilité d'utilisation.

En fait, à cause de leur propriété d'absorption, ces nouveaux produits constituent un support idéal dans la stabilité des caillots sanguins, en même temps

qu'un véhicule de choix pour les antibiotiques dans les régions infectées.

Bien plus, ces médicaments ont l'avantage d'être bien tolérés par l'organisme, et de ne pas altérer les solutions antibiotiques avec lesquelles ils sont employés, exception faite de la cellulose oxydée, qui détruit rapidement les solutions de thrombine et de pénicilline.

Le nombre des cas servant de base à ce travail est malheureusement trop limité pour permettre des conclusions définitives. Cette étude consistera plutôt en une revue de littérature de plusieurs auteurs, qui ont traité le problème, suivi d'une courte discussion de certains cas traités par cette méthode.

Revue de littérature

Il est intéressant de noter que Blair et Ivy écrivaient il y a plus de vingt-cinq ans:

"Dans les plus gros kystes, comme dans les plus petits, où une suppuration secondaire a eu lieu, il est conseillé après le curetage, de remplir la cavité durant quelques jours avec une gaze iodoformée plutôt que de suturer le lambeau. Ce pansement devrait être changé au moins toutes les 48 heures. Aussitôt que la

*Travail préparé dans le service de Chirurgie buccale de la Faculté de Chirurgie Dentaire de l'Université de Montréal.

cavité est bordée de saines granulations, l'insertion de gaze doit être discontinuée et la cavité obturée d'une pommade dont la formule est la suivante:

Huile d'olive (Olive Oil) 8 parties
 Cire jaune (Yellow wax) 28 parties
 Aristol ou iodoforme 4 parties
 Parafine (Paraffin wax) 4 à 8 parties
 (Prinz)

Celle-ci est fondue dans un flacon, au-dessus d'un récipient rempli d'eau. Lorsque la cavité osseuse est bien sèche, on la remplit de pommade et tout est dit. Cette dernière empêche la nourriture de pénétrer et prévient la réinfection de la plaie. Elle est graduellement rejetée par la régénération de la cavité par le fond. D'ordinaire, la cire n'a pas à être remplacée plus souvent qu'une fois par mois. On évite ainsi la nécessité de changer le pansement, ce qui sauve beaucoup de temps au patient et à l'opérateur."⁽¹⁾

Cette méthode était bonne dans le temps; elle a cependant été abandonnée parce que le paquetage de gaze complique la procédure chirurgicale, soit en cachant souvent une infection latente, soit en bloquant le drainage lymphatique, soit en retardant la guérison ou produisant une hémorragie, lorsqu'on l'enlève de la plaie.

Thoma décrit trois facteurs impliqués dans le processus normal d'une guérison par première intention d'une opération chirurgicale dans la bouche.

1—La difficulté d'obtenir et de maintenir l'aseptie absolue pendant l'opération nécessite un agent bactéricide et bactériostatique.

2—Les hémorragies secondaires, quoique généralement banales, sont communes durant les premières 24 heures et surviennent quelquefois après l'élimination de l'effet hémostatique de l'anesthésie locale. Un agent hémostatique local, prévenant aussi l'ecchymose de la figure, est une addition désirable.

3—Un trop gros caillot sanguin se désagrège parfois fournissant ainsi aux bactéries un milieu favorable pour leur prolifération; un agent qui comblerait la cavité d'une façon sûre devrait être trouvé.

Dans son récent article intitulé: "Une

étude sur l'éponge gélatineuse avec la Thrombine et la Pénicilline dans le traitement des plaies de la chirurgie buccale,"⁽²⁾ Lester M. Silverman écrit:

"L'éponge gélatineuse fait partie du groupe des nouvelles substances trouvées en ces dernières années après de longues recherches. Ce groupe inclut aussi la substance fibrineuse, la cellulose oxydée et l'éponge d'amidon. Elles ont toutes les propriétés communes d'être hémostatiques et absorbables."

Les propriétés bactériostatiques et bactéricides des antibiotiques modernes ont été mises en évidence par de nombreuses expériences. Il semble également prouvé que les agents hémostatiques, à leur tour, constituent un apport de première classe pour la préservation du caillot sanguin dans les cavités osseuses.

Si nous ajoutons l'action hémostatique aux propriétés précédentes, ces agents constituent une aide très précieuse aux praticiens.

L'œdème post-opératoire et la douleur sont toujours de règle dans les cas difficiles, quand les tissus ont été traumatisés. En fait, ces complications ne sont pas rares après une extraction chirurgicale des apex, des racines de molaires, de 3^{èmes} molaires incluses et les énucléations de kystes. Il est d'usage, dans ce cas, de placer de la poudre de Pénicilline dans les cavités. Sans aucun doute, les résultats sont quelquefois excellents, mais très souvent, une bonne portion du médicament est lavée par l'hémorragie, et la quantité laissée n'est pas suffisante pour contrôler l'infection.

Le patient fait une poussée de température et manifeste tous les signes d'une infection. On a alors recours à l'injection intramusculaire de Pénicilline huileuse ou aqueuse toutes les 3 ou 4 heures. De telles complications sont aussi désagréables pour le patient que pour l'opérateur.

Il est par conséquent avantageux d'employer une substance dont la consistance spongieuse rende possible l'application et le maintien d'antibiotique dans la cavité. La perte du médicament à travers le tissu suturé n'est pas à craindre, puisque le caillot sanguin est rapidement organisé

et maintenu en place avec le support d'un agent hémostatique absorbable.

Dans cet exposé, quatre différents agents hémostatiques absorbables sont mentionnés: la fibrine, la cellulose oxydée, l'éponge d'amidon et l'éponge gélatineuse. L'éponge gélatineuse sera la seule en cause, car il semble qu'elle soit la plus facile à manipuler et la plus pratique en dentisterie. Elle a toujours été employée depuis plus de cinq ans dans les cas dentaires, et plusieurs auteurs ont rapporté leurs observations.

Dans son article publié en 1946, Walter C. Guralnick fait part des avantages de l'emploi de l'éponge gélatineuse, et des complications qui, quelquefois, naissent de l'usage de la gaze comme paquettage et comme drain. Il rapporte ce qui suit⁽³⁾:

"Le processus de guérison repose sur la constitution physiologique du caillot sanguin. Dans la cicatrisation des grandes cavités, par exemple, celles occasionnées par l'ablation d'un kyste ou d'une 3e molaire inférieure incluse, la réparation est souvent compliquée et retardée par la dissolution précoce du caillot formé au début.

L'organisation des gros caillots étant incertaine, les opérateurs ont recours aux drains, aux pommades et aux mèches. Toutes ces méthodes, dites de "bouchons", retardent la guérison et nécessitent des soins post-opératoires additionnels.

La fibrine a récemment été suggérée par différents auteurs comme la solution à l'hémostase et au remplissage des cavités en chirurgie buccale. Les résultats sont satisfaisants. Elle est, cependant, très difficile à obtenir, étant une partie du corps humain. Elle est aussi quelquefois difficile à manipuler. Pour ces deux raisons, nous avons expérimenté avec le Gelfoam et la thrombine, un produit commercial non friable, facile à obtenir et simple d'emploi."

Utilisation

Avant de toucher à cette partie du travail, il est nécessaire de faire connaître de la composition de l'éponge gélatineuse et ses propriétés.

"L'éponge gélatineuse est préparée en

convertissant une protéine soluble non spécifique en une insoluble, mais en une matière absorbable. Une solution de gélatine spécialement préparée pour les muqueuses est battue en neige à la porosité désirée, séchée dans des moules en monel, et placée dans des jarres stérilisées à la chaleur sèche de 149 °C. Ces jarres sont cirées pour en assurer la stérilité. L'éponge est une matrice claire presque blanche, non élastique, dure, poreuse, qui peut-être coupée de n'importe quelle grandeur ou épaisseur. Elle paraît n'avoir aucune tendance à se désintégrer, même si on la manipule brusquement. Si l'on frotte vigoureusement un morceau d'éponge entre ses doigts humides, elle s'imbibera d'eau rapidement. Un cube de 10 mm., pesant environ 2 mg., prendra à peu près 5 fois son poids en eau, et, 45 fois son poids en sang oxalaté.⁽⁷⁾

Le Conseil de Pharmacie et de Chimie de l'Association Médicale Américaine a approuvé le Gelfoam parmi les "Nouveaux Remèdes Non-Officiels", en donnant la description suivante de l'éponge de gélatine⁽⁹⁾:

"L'éponge absorbable de gélatine Gelfoam (UPJOHN). Une éponge stérile, absorbable, insoluble dans l'eau, à base de gélatine⁽⁹⁾:

L'éponge absorbable de gélatine, quoiqu'insoluble dans un milieu aqueux, est absorbable et comme telle, peut être employée comme éponge chirurgicale. Cette dernière peut être laissée en place après une incision chirurgicale fermée. Il est reconnu que cette matière sera complètement absorbée, sans produire une formation excessive de tissu cicatriciel ou de réaction cellulaire excessive, après 4 ou 6 semaines. Elle est indiquée dans le contrôle des hémorragies capillaires, particulièrement quand elle est humectée d'une solution de thrombine."

L'éponge gélatineuse a donc une action hémostatique et elle est absorbable. Light⁽⁶⁾ et Jenkins⁽⁸⁾ démontrent ses propriétés non antigéniques, réparatrices et de nature à retenir le caillot.

La manière d'employer l'éponge de gélatine est des plus simples. Il est cependant important de connaître la façon

de l'utiliser. Light et Prentice, dans "Surgical Investigation of a New Matrix Used in Conjunction with Thrombin in Hemostasis", déclarent:

"L'éponge de gélatine sèche est coupée de la grandeur désirée avec un scalpel. L'assistante mouille alors celle-ci entièrement en la trempant dans une solution de thrombine et en la pétrissant fortement entre ses doigts jusqu'à ce que l'air en soit complètement expulsé; cette substance devient très molle. Après réimmersion dans la solution, elle s'enroule et grossit à sa taille normale.

Le chirurgien a le choix entre deux alternatives. Il peut prendre un morceau de gélatine qui trempe dans la thrombine, la placer dans la région où il y a du sang, la presser en place avec une boulette de coton et enlever l'excès de thrombine par succion appliquée sur la boulette. Après la relâchement de la pression, le sang coule dans la matrice, se combine et se caille. La boulette de coton peut être enlevée avec une goutte ou deux d'eau.

Alternativement, l'éponge peut-être débarrassée de son excès de thrombine en la pressant dans une serviette avant son application. Une pression d'un moment à travers une boulette de coton est une aide pour le scellage du morceau, et la propriété d'absorption est utile pour obtenir un champ sec. Une hémostase sûre s'obtient en moins de 10 à 15 secondes."

La procédure est la même avec la Penicilline et la Streptomycine. Les résultats obtenus furent aussi satisfaisants que lorsque la thrombine fut employée.

Ce qui suit est un rapport de quelques cas entrepris à l'Université de Montréal, en employant la Pénicilline dans quelques-uns et la Streptomycine dans d'autres.

Cas observés

Cas No 1—Enucléation d'un kyste radiculaire

M.V.D. Un homme âgé de 57 ans, en bonne santé, se présente le 28/10/49, pour l'extraction d'une canine gauche, d'une deuxième prémolaire, d'une latérale inférieure gauche, d'un canine, d'une deuxième molaire, parce qu'il portera plus tard, deux dentiers.

L'interprétation radiographique montre un kyste dans le maxillaire inférieur, du côté droit, s'étendant de la deuxième molaire à la canine. Aucun symptôme clinique. On donne un rendez-vous au patient pour le 16/11/49. A cette date, le kyste est enlevé et la cavité remplie avec du Gelfoam trempé dans une solution de Streptomycine. Le tissu mou est suturé avec soin. Aucun drain. Le patient revint une semaine plus tard rapportant qu'il n'avait souffert d'aucun malaise, ni d'inflammation. L'apparence générale de la plaie fut satisfaisante et les points furent enlevés. Le 30/11/49, une radiographie montrait que la région était en voie de régénération. Cinq mois plus tard, une autre radiographie révélait une régénération complète de l'os.

Quatre autres cas de kystes ont été traités en employant le Gelfoam et la Streptomycine; aucun drain n'a été inséré et on a obtenu des résultats aussi satisfaisants.

Cas No 2—Extraction des 3e molaires incluses; supérieure et inférieure

Mlle L.L., âgée de 16 ans, fut référée pour l'extraction de molaires du haut et du bas, à gauche. La patiente nous dit qu'elle a ressenti une douleur dans la région de la 3e molaire gauche inférieure. Un examen clinique révèle une légère enflure dans cette région, mais cette enflure n'a pas les caractères typiques de l'infection. La radiographie montre une dent incluse dans une position mésioangulaire exerçant une pression sur le 2e molaire. La 3e molaire du haut est aussi incluse dans une position mésioangulaire. On décide d'enlever les 2 dents de sagesse.

Comme la patiente est en bonne santé, l'opération est pratiquée sous anesthésie locale. Les cavités sont remplies de Gelfoam imbibé de Streptomycine, et l'incision est suturée—d'une façon hermétique.

La patiente revient le 27/3/50 et rapporte n'avoir eu aucun ennui, si ce n'est une légère douleur pour le reste de la journée, après l'opération. Un examen clinique révèle un état très favorable et les points de suture sont enlevés. Un examen radiographique fait le 25/4/50

montre une régénération osseuse bien en voie.

Quinze cas de 3e molaires incluses et de canines supérieures incluses furent faits en employant le Gelfoam humecté dans une solution physiologique salée, et en employant de la Pénicilline en poudre comme antibiotique. Tous les résultats furent satisfaisants. Deux cas ont eu quelques troubles post-opératoires, mais on trouva la cause dans des dépôts de nourriture logée dans la cavité. Ces cas redevinrent normaux après une irrigation.

Quatorze autres cas de 3e molaires incluses furent entrepris en employant du Gelfoam imbibé d'une solution de Streptomycine. Un cas fut sujet à une douleur post-opératoire pendant quelques jours, mais fut promptement soulagé quand on lui enleva une esquille, qui lui avait causé une irritation.

Avec l'exception de ces 3 cas mentionnés, tous les autres cas nécessitèrent seulement l'ablation de sutures, comme soin post-opératoire, et, dans aucun de ces cas, on inséra des mèches.

Cas No 3—*Apectomie*

Mlle C.L., âgée de 20 ans, se présente à la clinique le 30/1/50. La patiente est en bonne santé. Quelques mois auparavant, des coiffes d'acrylique avaient été confectionnées sur les 2 centrales et sur la latérale droit supérieures. Peu de temps après, la patiente se plaint de douleur et d'enflure qui diminue graduellement.

A l'examen, on note une sensibilité dans la région. Il y a 2 fistules du côté labial, vis-à-vis les apex des 2 centrales. A la pression, il n'y a de pus. La radiographie révèle une zone raréfiée d'os qui entoure les apex de la centrale et latérale droites ainsi qu'une raréfaction isolée à l'apex de la centrale gauche.

Une stérilisation immédiate et des apectomies sont faites sur les trois dents. Les cavités osseuses sont remplies de Pénicilline en poudre et de Gelfoam humecté d'une solution physiologique saline. Les lambeaux de gencive sont suturés hermétiquement sans mèche. La patiente applique des compresses froides à des intervalles d'une heure, pour le reste de la journée.

Le 4/2/50, la patiente revient et nous rapporte n'avoir souffert d'aucun ennui, ni d'enflure. L'incision présente un aspect satisfaisant. On enlève les sutures.

Dix autres cas de stérilisation immédiate et d'apectomie furent faits; les cavités osseuses furent remplies de Pénicilline en poudre, de Gelfoam imbibé d'une solution salée dans 5 cas; le Gelfoam imbibé de Streptomycine dans 5 autres cas. Aucun drain ne fut employé. Le seul traitement post-opératoire consista dans ablation des sutures.

Discussion

Les quelques cas rapportés sont une preuve additionnelle qui établit que les agents hémostatiques absorbables, employés conjointement avec les antibiotiques, sont appelés à jouer un rôle important dans la prévention des alvéolites, et des complications post-opératoires. Un autre avantage précieux de ces médicaments consiste dans l'abolition des drains pour ces genres de cas. En fait, après le curetage, quand la cavité est remplie d'un agent hémostatique, le tissu mou peut-être suturé immédiatement et l'agent antibiotique agit comme préventif à l'infection.

L'esthétique aussi est sauvegardée car, lorsque le périoste est suturé en place, il ne présente pas cette apparence de concavité, qui se produit quand un drain a été inséré. La gélatine est absorbée lentement dans la cavité; le patient n'a donc pas à se plier aux fréquents changements des drains et des pansements.

Conclusions

En raison de leurs nombreux avantages, les agents hémostatiques absorbables sont probablement désignés à remplacer les autres médicaments déjà employés dans les cavités osseuses. Aussi, de nouvelles substances ont récemment fait leur apparition, qui peut-être, rendront des services aussi grands.

Cependant, les praticiens ont tout à gagner dans l'emploi généralisé de ces produits. Leurs qualités sont suffisamment remarquables pour qu'on leur accorde une place dans nos traitements.

N'oublions pas que le but de la chirurgie est humanitaire, restaurateur et esthétique.

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Nouvelles de l'Association

Nouvelle liste d'honoraires du Ministère des Affaires des Vétérans

Des négociations ont eu lieu, ces derniers mois, entre le Ministère des Affaires des Vétérans et le Comité des Services Dentaires de l'A.D.C. pour fixer une nouvelle échelle d'honoraires.

En janvier dernier, des honoraires de toutes les parties du Canada ont été étudiés. Ces tarifs ont ensuite été compilés au pro rata de chacune des provinces. Ces chiffres devaient représenter aussi fidèlement que possible les honoraires ordinaires d'une pratique privée, tant dans les centres urbains que ruraux. Ces moyennes furent utilisées pour la revision des honoraires actuels. Les membres du Comité désirent complimenter les autorités fédérales pour l'étude compréhensive qu'elles ont fait de leur mémoire.

On a appris que le Bureau du Trésorier a approuvé la nouvelle liste suivante des honoraires, à partir du 1er juin 1951.

Le Ministère de la Défense Nationale a fait savoir qu'il adoptera cette échelle révisée.

MINISTÈRE DES AFFAIRES DES VÉTÉRANS

Liste des honoraires dentaires
devant être payés aux dentistes en pratique privée

Les honoraires des traitements dentaires qui n'apparaissent pas dans la liste ci-dessous et les honoraires dépassant ceux payés pour des traitements semblables doivent être approuvés par le Directeur.

(N.B.: les lettres entre parenthèses servent aux renseignements, qui sont donnés dans les paragraphes à la fin de cette échelle; ces paragraphes portent les mêmes lettres.)

(a) Examen autorisé et rapport	\$ 2.00
(b) Traitements	
(1) prophylaxie (détartrage et polissage inclus)	3.00
(2) traitement mineur de périodontie (chacun)	2.00
(3) traitement d'urgence (pour calmer la douleur)	2.00
(4) coiffage de pulpe	2.00
(c) Radiographie et diagnostic	
(1) simple—pellicule intra-buccale (occlusale ou apicale)	2.00
(2) toute pellicule additionnelle	1.00
(3) série complète, haut ou bas (7 films)	6.00
(4) radiographie complète des dents (14 films)	10.00
(d) Chirurgie	
(1) extraction sous anesthésie locale première dent d'un côté (haut et bas)	3.00
chaque dent additionnelle du même côté (haut et bas)	1.00
(2) anesthésie générale, extraction de chaque dent	1.00
Pour la chirurgie buccale, dents incluses et fractures y compris, un rapport détaillé et des radiographies sont exigés. Les honoraires sont fixés par le Directeur.	
(3) traitement de canal, traitement et remplissage. Les honoraires seront fixés par le Chef de District du Service Dentaire	
(e) Obturation d'un seule dent	
(1) amalgame (1 face)	2.00
(2) amalgame (2 faces)	4.00
(3) amalgame (3 faces ou plus)	6.00
(4) silicate	4.00
(5) acrylique	5.00
(6) incrustation ou aurification (1 face)	8.00
(7) incrustation ou aurification (2 faces)	12.00
(8) incrustation ou aurification (3 faces ou plus)	15.00
(9) couronne occlusale coulée en or	18.00
couronne antérieure en or	15.00
couronne en or, réparation, recimentage inclus	7.00
(10) couronne de porcelaine	35.00
couronne de porcelaine refaite	20.00
(11) couronne d'acrylique	25.00
couronne d'acrylique refaite	2.00
(f) Ponts fixes (genres d'attaches décrits plus haut)	
pontiques (soudure à l'attache y compris)	
premier pontique sur chaque pont	12.00

chaque pontique en surplus sur le même pont	10.00
Réparation de pont, en utilisant un élément neuf (attache ou pontique)	
Honoraire fixé, plus haut, pour nouvel élément, mise en place, soudure et recimentage	
—1 attache	3.00
—2 attaches ou plus	5.00
Porcelaine remplacée	4.00
Recimentage de pont	
avec un attache	2.00
avec deux attaches ou plus	3.00
(g) Dentiers partiels amovibles (voir pour attaches, plus bas)	
Base et dents	35.00
(1) crochet en or façonné avec appui	5.00
(2) crochet en or coulé	4.00
Barre, acier inoxydable	4.00
(3) Barre façonnée et soudée en or	10.00
(4) Barre en or coulé et soudée	18.00
Prolongement pour remplacer dent extraite, première dent	5.00
chaque dent de plus	1.00
Reconfection de dentier partiel (en utilisant les dents et les attaches du dentier actuel)	30.00
Doublure d'un dentier partiel	15.00
(h) Dentiers complets	
supérieur ou inférieur, chacun	50.00
supérieur ou inférieur, reconfection (en utilisant les dents du dentier actuel)	45.00
supérieur ou inférieur, doublure	20.00
(i) Réparation de dentier partiel ou complet base seulement	5.00
remplacement de chaque dent	1.00
Notes explicatives et détails au sujet des traitements dentaires.	
(Note) Les lettres des différents paragraphes correspondent aux lettres apparaissant dans la liste des honoraires.	
(a) Les dentistes doivent enlever les dépôts de tartre et les débris de nourriture avant de faire un examen, qui soit autorisé. Cette façon de faire permet un diagnostic plus exact et un rapport plus complet. Il n'y a pas d'honoraires prévus pour ce nettoyage sommaire.	
(b) (1) Une prophylaxie veut dire l'ablation des dépôts de tartre et le polissage des dents. Elle est autorisée seulement quand il n'y a pas de pathologie demandant des traitements de périodontie. La prophylaxie est comprise dans tout traitement de périodontie.	
(b) (2) Quatre séances, au maximum, sont permises au cours d'un traitement de périodontie, à moins qu'il soit évident que le traitement doive être prolongé. Dans ces cas, un rapport du travail, à mesure qu'il est fait, doit être soumis au Chef de District du Service Dentaire, accompagné d'un demande d'autorisation pour continuer le traitement.	
(b) (3) Les honoraires pour traitement d'urgence, autre que celui entrepris pour soulager la douleur, seront accordés au pro rata des honoraires prévus pour ce genre de traitement.	
(b) (4) Les honoraires pour un coiffage de pulpe seront accordés seulement quand la pulpe est écornée et quand il y a des chances raisonnables de la sauver. Un matériel reconnu pour les coiffages de pulpe devra être utilisé.	
(c) (1)-(4) Des radiographies seront autorisées par le Chef de District du Service Dentaire quand elles seront nécessaires à un diagnostic. Les pellicules, qui ne sont pas au point; ou qui ne montrent pas suffisamment une région pour permettre un diagnostic, ou qui ne portent pas le nom, le chiffre du patient et la date, ne seront pas acceptées, ni payées.	
(d) (1) Les extractions seront faites la plupart du temps sous anesthésie locale. Les extractions ne seront jamais faites à froid, à moins que le patient l'exige. Les honoraires maxima pour les extractions ne devront jamais dépasser \$30.00.	
(d) (2) L'anesthésie générale ne sera permise que pour des cas exceptionnels.	
(d) (3) Les extirpations de pulpe et les traitements de canaux ne seront autorisés que dans des cas spéciaux, où le Chef de District du Service Dentaire est d'avis que le traitement a de bonnes chances de réussir. Le traitement devra être fait	

par un opérateur compétent qui utilisera une méthode moderne reconnue.

- Note: L'usage de la digue de caoutchouc est recommandé pour toutes les obturations.
- (e) (1)-(2)-(3) Les cavités préparées pour l'amalgame devront avoir, quand nécessaire, une base isolante de ciment, sans qu'il n'y ait d'honoraires additionnels. Toutes les obturations devront avoir une forme de contour normal, présenter un point de contact, et être sculptées. Les honoraires maxima pour un amalgame d'une surface ne dépasseront jamais \$2.00 et tous les amalgames pour une même dent, \$8.00.
- (e) (4)-(5) Les dents, qui seront restaurées de silicate ou d'acrylique devront avoir leur paioi pulpaire protégée par une substance radio-opaque, imperméable aux ingrédients de la substance obturatrice. Cette protection est comprise dans les honoraires de l'obturation. Les honoraires maxima pour des restaurations semblables sur une dent ne dépasseront pas, pour le silicate \$8.00, et pour l'acrylique \$10.00.
- (e) (6)-(7)-(8) L'or utilisé pour des incrustations et des attaches devra être des catégories approuvées par les standards métallurgiques de l'A.D.A. Les incrustations, qui ne servent pas comme attaches pour ponts, ne seront permises que pour les six dents antérieures, supérieures ou inférieures, où l'angle incisif est atteint. (Pour le personnel de la Police Montée, on permet des incrustations sur les huit dents antérieures, inférieures ou supérieures.)
- (e) Les incrustations sur les dents postérieures ne seront permises que quand elles serviront comme attaches de ponts.
- (e) (9) Les surfaces triturantes des couronnes devront être renforcées avec de la soudure d'or de 18 carats.
- (e) (10) Les coiffes seront autorisées par le Directeur quand elles seront nécessaires et même indispensables au maintien de la vitalité des dents.
- (f) Les ponts six dents peuvent être autorisés pour remplacer les six dents antérieures, haut et bas; cependant le personnel de la Police Montée peut faire remplacer les huit dents antérieures, supérieures et inférieures, par ce genre de restaurations.
- (g) Les dentiers partiels, sur les deux maxillaires, seront autorisés quand trois dents artificielles ou plus sont comprises dans la prothèse.
- (g) (1) Tous les crochets doivent s'appuyer sur les surfaces convexes des dents (crochets doubles) et avoir un appui occlusal pour prévenir l'enfoncement du dentier.
- (g) (2)-(4) Les crochets coulés et les barres seront autorisés seulement quand les circonstances anatomiques ou occupationnelles l'exigent.
- (g) (3)-(4) Les barres d'or doivent être des catégories approuvées par les exigences métallurgiques de l'A.D.A. et ne doivent pas être ce qu'on appelle communément en "or plaqué".
- (g) (h) (i) On doit suivre une méthode reconnue et acceptée pour la confection de pièces amovibles. Les dents devront être de la meilleure qualité et le matériel de marque reconnue.

Congrès National de 1951

Les enrégistrement faits à l'avance laissent prévoir une grosse assistance pour le Congrès National d'Ottawa, qui aura lieu du 23 au 26 septembre. Le programme, qui a été expédié à tous les membres de l'Association, couvre tous les domaines de l'exercice de la dentisterie. Le Comité du Congrès est sous la présidence du Dr Hilliard Pritchard, d'Ottawa, et met tout en oeuvre pour organiser une réunion, dont tous se souviendront. L'Association des Epouses des Dentistes d'Ottawa a mis sur pied un programme de récréa-

tion pour les dames. (Voir le Journal et la brochure à cet effet.)

On retient sa place en s'adressant au Dr H. N. Beach, 150 rue Metcalfe, Ottawa.

Réunion du Bureau des Gouverneurs

Les sessions du Bureau des Gouverneurs commenceront mercredi, le 19 septembre, au Château Laurier. Les membres de l'Association sont invités à ces assemblées et leur présence est la bienvenue.

Le plan d'assurance-santé anglais veut diminuer ses dépenses

La présentation du budget national de santé publique est un événement qui touche directement tous les contribuables. Le besoin d'argent pour d'autres activités et le coût toujours grandissant du plan d'assurance-santé, ont forcé le gouvernement anglais à réduire les sommes destinées au financement du plan connu sous le nom du National Health Act. Dorénavant, le public devra payer de sa poche, la moitié du coût des dentiers et des lunettes, dont il aura besoin. Cette décision a amené la démission de l'ancien Ministre de la Santé, Aneurin Bevan et de quelques autres ministres.

Profitant de l'embarras financier du gouvernement, l'Association Anglaise des Techniciens Dentaires a présenté un mémoire appuyant sur l'économie immense qui serait réalisée immédiatement "si on confiait la confection des prothèses aux techniciens, sans que les patients aient à payer le profit de l'intermédiaire (le dentiste)." On insistait de plus dans ce mémoire, sur le fait que les techniciens avaient les qualifications nécessaires pour exécuter ce travail au fauteuil. On n'a pu apprendre la réaction du gouvernement à ces offres de services. Il est à souligner qu'on ne trouve pas nulle part, dans ce genre d'observations, la mention "services de qualité."

Les dentistes d'Angleterre redoutent de plus en plus la perte de leurs prérogatives professionnelles. Quand la loi d'assurance-santé anglaise a été passée et quand les modalités d'application de cette loi ont été définies, l'Association Dentaire Anglaise, à maintes reprises, a

dénoncé la perte de liberté professionnelle que signifiait cette loi. Les officiels gouvernementaux, en réponse, niaient ces prétentions et disaient qu'un tel état de choses était impossible par la nature même de la composition des Bureaux d'Evaluation Dentaire, qui seraient constitués de professionnels, et que, de plus, tous les cas douteux seraient soumis à un officier dentaire, dans chaque localité.

En fait, le Bureau d'Evaluation Dentaire est composé de six dentistes qualifiés et de plusieurs centaines de commis. Ce bureau approuve les traitements proposés pour chaque cas. Une livraison récente du Journal de l'Association Dentaire Anglaise établissait que la profession se rend compte que le Bureau considère un examen clinique comme une perte de temps. Cette situation se constate pour tout traitement, l'orthodontie y compris, et à plus forte raison pour les traitements de routine. Le dentiste, qui soumet un traitement, qui sort de l'ordinaire, reçoit une lettre écrite à l'avance, lui apprenant que le Bureau n'est pas en mesure de recommander des honoraires pour ce traitement.

De plus, le Journal indique que le Bureau d'Evaluation Dentaire se moque des droits professionnels reconnus par la Loi des Usages et impose ses propres règlements à la profession. La Loi des Usages reconnaît qu'un professionnel, qui entreprend un traitement, doit consacrer à ce traitement la somme de science et d'habileté requise d'un praticien ordinaire pour la réussite de ce traitement; que ce professionnel a droit à une rémunération à la fin de ses services, même si le traitement n'a pas donné les résultats désirés. Le Bureau d'Evaluation Dentaire ignore ces principes en fixant une réglementation compliquée, qui ne s'occupe pas des difficultés rencontrées au cours du traitement de cas spéciaux. Aux dires de l'Association, cette attitude constitue un réel danger et une nouvelle appréciation des services dentaires.

Liste des Finissants de la Faculté de Chirurgie Dentaire

Ci-après apparaît une liste des noms des diplômés "1951." Le nom de chacun de

ces nouveaux confrères est suivi de l'en-droit où il compte s'installer.

Allaire, Gilles, Montréal; Bachand, Jean, Beloeil; Bisailon, Germain, Sudbury; Bock, Jean-Guy, Montréal; Boudreau, Dismas, Edmundston, N.-B.; Chrétien, Roland, Aylmer; Cloutier, Yvon, Montréal; Comeau, Alyre, Yarmouth, N.-E.; Côté, Roger, Montréal; Coulombe, Roger, Baie Comeau; Cyr, Bertin, Edmundston, N.-B.; D'Amours, Claude, Matane; de Billy, Godefroy, Montréal; Désaulniers, Fernand, Montréal; Désilets, Jules, Danville; Distelfeld, David, Etats-Unis; Doiron, Aubin, Summerside, I. de P.-E.; Dontigny, Vincent, Trois-Rivières; Dubois, Gérard, St-Lambert; Mercier, Gérard, Gracefield; Paquin, René, St-Eustache; Paré, Paul, Montréal; Emblem, Georges, Montréal; Fafard, Paul, Rock Island; Fortier Gérard, Sherbrooke; Fréchette, Laurent, Beloeil; Gareau, Armand, Etats-Unis; Gascon, Gabriel, Trois-Rivières; Gauthier, Ernest, Sudbury; Germain, Claude, L'Annonciation; Giguère, Yves, Québec; Grenier, Raymond, Worcester, E.-U.; Guay, Robert, Montréal; Joly, Pierre, Verdun; Juneau, Lucien, Saskatchewan; Kébalo, Basil, Montréal; Laberge, Gaston, Québec; Lafontaine, Benoit, Windsor Mills; Lalande, Jean, Montréal; Lamarche, Gilles, Mont-Laurier; Larocque, Henri, Hawkesbury; Leblanc, Adéland, Etudes post-universitaires; Leblanc, Joseph, Worcester, E.-U.; Lefebvre, Gérard, Valleyfield; Lifszyc, Joseph, New York; Lizaie, André, Port-au-Prince, Haiti; Lussier, Gérard, St-Lambert; Mercier, Gérard, Gracefield; Paquin, René, St-Eustache; Paré, Paul, Montréal; Pelletier, Georges, Etudes post-universitaires; Perrault, Georges, Mont Joli; Picotte, Lucien, Ville Jacques-Cartier; Proulx, Jacques, Hull; Rivard, Laurier, Gentilly; Robichaud, Eugène, Richibouctou, N.-B.; Rochon, Alban, Dolbeau; Rochon, Augustin, Pont-Viau; Roy, Charles, Lachute; St-Hilaire, Marc, Princeville; St-Onge, Edouard, Grand Falls, N.-B.; Sirois, Albani, La Tuque; Stephen, Michel, Porto Rico; Surprenant, Jacques, Montréal; Thibault, Jacques, Matane; Trépanier, Marc-R, Farnham; Trépanier, Marc-Y, Valleyfield; Vienneau, Armand, Gatineau; Villeneuve, Angelo, Montmorency.

Prix de fin d'année à la faculté de Chirurgie Dentaire

Les prix suivants ont été mérités par certains finissants de la faculté: médaille

du Lieutenant-Gouverneur de la province de Québec, décernée à l'élève se classant premier de sa promotion: Désilets, Jules; prix du Collège des Chirurgiens-Dentistes de la province de Québec: Désilets, Jules; prix "Eudore Dubeau," décerné à l'élève ayant obtenu le plus haut total des points en théorie durant les quatre années de son cours: Désilets, Jules; prix "Mémorial Théo. Coté," décerné au finissant, qui s'est classé premier en Couronnes et Ponts: Juneau, Lucien; prix de l'Association Dentaire Franco-Américaine: Gareau, Armand; prix de la Banque d'Epargne, à l'élève qui s'est le plus distingué par son esprit d'ordre et de travail: St-Onge, Edouard; prix de la Société d'Endodontie de Montréal, décerné à l'élève qui s'est classé le premier en Endodontie: Joly, Pierre; prix de l'Alpha Omega Fraternity: Désilets, Jules.

Enquête sur les Facultés

Le Conseil d'Enseignement Dentaire fait part de la fin des premières visites de toutes les écoles dentaires par le Comité d'Enquête. Le programme initial de cette enquête se répartit sur trois ans, et des rapports confidentiels seulement seront soumis aux autorités concernées. Toutes les facultés ont accueilli avec cordialité les membres du Comité et le personnel de ces écoles leur ont accordé leur plus entière collaboration. L'intérêt qui a présidé au début de cette entreprise laisse entrevoir un brillant avenir pour l'enseignement dentaire au Canada.

92e Réunion de l'Association Dentaire Américaine, à Washington

Le Congrès annuel de l'Association Dentaire Américaine aura lieu à Washington, du 15 au 18 octobre. Des formules d'enrégistrement pour retenir des chambres d'hôtel et une carte indiquant les hôtels où seront logés les congressistes peuvent être obtenues en écrivant au secrétaire, Association Dentaire Canadienne, 234 rue St-George, Toronto.

XIe Congrès Dentaire International, à Londres, en 1952

La compagnie Thos. Cook et fils a été choisie comme l'agent officiel de l'A.D.C., pour s'occuper de l'organisa-

tion des voyages des membres désirant se rendre à Londres pour le Congrès, qui se déroulera du 19 au 26 juillet 1952. Cette réunion coïncide avec l'affluence des touristes et il faut songer qu'il sera bien difficile de retenir des chambres d'hôtel à moins que ces réservations ne soient faites longtemps à l'avance. L'agence Cook a préparé un questionnaire à l'intention des membres de l'Association pour connaître les désirs du plus grand nombre afin de tracer un itinéraire convenable. On prie les intéressés de retourner le questionnaire le plus tôt possible.

Traductions disponibles

Les pamphlets publiés par l'Association et intitulés "Dentistry as a career" et "A charter for Dental Health" ont été traduits en français. Des copies sont disponibles sur demande.

Rapport annuel 1950-1951 — Division d'Hygiène dentaire, Ministère de la Santé Nationale et du Bien-Etre Social

On soumet à votre attention le rapport annuel de la section d'Hygiène Dentaire du Ministère de la Santé Nationale et du Bien-Etre Social. Ce rapport apparaît plus bas. Cette section accomplit une besogne louable et joue un rôle immense dans le dentisterie préventive. La profession dentaire bénéficie de ses activités et les rapports étroits qui existent entre cette division du Ministère et l'A.D.C. sont appréciés.

Ministère de la Santé Nationale et du Bien-Etre Social: Section d'Hygiène dentaire

Le but primordial de cette section est d'élargir le domaine de la dentisterie préventive de façon à abaisser le pourcentage des caries dentaires et la fréquence des malocclusions et des maladies gingivales. Cette année, encore, cette section a poursuivi ses activités dans ce sens, en s'occupant de recherches, en éduquant le public et en prodiguant des conseils et d'autres services aux autres sections de ce Ministère, aux Ministères de la Santé provinciaux et à l'Association Dentaire Canadienne.

L'expérience de Brantford sur l'addition de fluorure à l'eau des aqueducs a

été continuée et on y a fait conjointement une étude épidémiologique sur les conditions gingivales des enfants des écoles et de jeunes adultes. Dans cette expérience, les dents et les gencives de 1800 enfants de Brantford, où l'eau des aqueducs est additionnée de fluorure, ont été comparées à celles de 1800 enfants de Sarnia, qui servent comme groupe de "contrôle." De plus, les bouches de plus de 200 jeunes adultes de Stratford, Ontario, où l'eau contient naturellement le teneur idéale de fluorure, ont été examinées. Les statistiques amassées au cours de cette expérience furent contrôlées par la Section des Statistiques de ce Ministère. Le Comité des Recherches Dentaires du Conseil National des Recherches nous a fourni des renseignements d'ordre technique sur la conduite de cette expérience. Le chef de la Section d'Hygiène Dentaire est membre ex-officio de ce Comité. Certains membres de facultés dentaires nous ont aidé de leurs conseils et de leur assistance technique.

On a mis sur pied un nouveau projet de recherche en hygiène dentaire sous la forme d'une clinique modèle d'hygiène dentaire pour adultes. Dans ce service, un hygiéniste dentaire, travaillant sous la direction d'un dentiste, prodigue un service de consultation et de prophylaxie. Le dentiste travaille conjointement avec l'hygiéniste pour donner des services diagnostiques, quand la chose est nécessaire. La Section d'Hygiène du Service Civil a des contacts fréquents avec cette clinique pour des patients communs. Ceux qui montrent des signes buccaux de déficiences nutritives sont référés à la Section de Nutrition pour examen et consultation. On a fait des arrangements avec les Sociétés Dentaires locales pour les traitements d'urgence et autres. On se propose de tenir en fonction cette clinique modèle un ou deux ans, pour déterminer son utilité et son rôle dans un service dentaire industriel. Cette possibilité intéresse la Section de Santé du Service Civil et la Section d'Hygiène Industrielle.

Un dentiste et une assistante dentaire de notre Section ont aidé la Section de Nutrition dans plusieurs enquêtes dans

des unités sanitaires locales et dans une revision des conditions alimentaires des petits Indiens au Canada. Ces constatations nous ont permis d'amasser des statistiques précieuses sur l'état des dents des enfants de plusieurs régions de notre pays. De plus, des patients souffrant d'atrophie musculaire ont eu leur bouche examinée au cours d'une étude entreprise par le Ministère sous la direction de la Division de Nutrition.

Cette Section a aussi préparé du matériel d'enseignement sur l'hygiène dentaire consistant en des pamphlets, des dépliants, des collants, des pellicules cinématographiques et des bouts de films pour être utilisés dans les écoles, les unités sanitaires, les usines et dans les cabinets dentaires particuliers.

Ces réalisations, entreprises avec le concours de la Section des Renseignements, appuient la cause de la prévention dentaire et du contrôle des maladies dentaires, surtout chez les enfants. Une campagne d'éducation a été mise sur pied, informant le public des méthodes de prévention et du contrôle de la carie dentaire, d'abord chez les enfants. Elle appuyait, entre autres choses, sur le fait que moins de un pourcent de la population échappe à la carie dentaire et que plus de dents sont perdues, après trente ans, par les maladies gingivales que par la carie. Enfin, elle mettait en lumière qu'il est impossible de compiler le nombre de personnes qui souffrent du mal de dent, de dents infectées, d'abcès alvéolaires, de pyorrhée, de mastication défectueuse ou visages défigurés par la perte de dents. Cependant, cette Section tend à faire réaliser aux Canadiens que seuls les soins dentaires prodigués aux enfants, durant leur jeune âge, peuvent minimiser les déficiences dentaires à l'âge adulte; c'est par ce seul moyen que les maladies dentaires peuvent être maintenues dans des limites contrôlables et qu'on peut éviter les affections dues à l'infection et aux déficiences dentaires.

En plus des contacts rapportés plus haut avec différentes Sections du Ministère, on a échangé des consultations avec d'autres sections au sujet de l'exercice de la dentisterie et de l'hygiène dentaire pu-

blique en général. Ces échanges de vues peuvent se résumer ainsi:

1) Avec la Section des Aliments et Drogues, au sujet de la formule de certains remèdes dentaires et de certains dentifrices.

2) Avec la Section des Spécialités pharmaceutiques et des Médicaments brevetés, au sujet de demandes pour mettre sur le marché des médicaments dentaires en conformité avec la loi des Spécialités pharmaceutiques et des Médicaments brevetés.

3) Avec la Section du contrôle des Stupéfiants, au sujet de l'emploi judicieux des stupéfiants dans la pratique dentaire.

4) Avec la Section d'Hygiène mentale, au sujet de la préparation de matériel publicitaire touchant l'éducation d'hygiène publique, commune aux deux Sections.

5) Avec la Section d'Hygiène maternelle et infantile, au sujet de la préparation en commun de littérature destinée au public.

6) Avec la Section des Services Médicaux aux Indiens et Esquimaux; re, consultations pour améliorer les services dentaires donnés aux Indiens et Esquimaux et visites aux dentistes s'occupant de ce travail.

7) Avec la Section d'Etudes sur l'Assurance-Santé; re, consultations sur des problèmes concernant les pathologies dentaires en rapport avec l'Assurance-Santé; étude des projets dentaires soumis par les provinces tombant sous les octrois fédéraux de santé.

8) Avec le Laboratoire d'Hygiène; re, entr'aide pour des renseignements regardant les rapports entre la flore bactérienne de la bouche et les caries dentaires. Des échantillons de salive sont expédiés d'endroits où sont entreprises des enquêtes sur la carie dentaire et le Laboratoire d'Hygiène fait les examens bactériologiques.

9) Avec la Section de Génie sanitaire; re, échanges de vues au sujet de l'addition de fluorures aux eaux des aqueducs dans un but de prévention de la carie dentaire.

10) Avec la Section d'Epidémiologie; re, échanges de vues sur des renseigne-

ments touchant les relations possibles entre les maladies dentaires et la santé en général.

Notre Section vise à établir des contacts avec chaque Ministère de la Santé provincial. Le programme d'hygiène dentaire de chaque province, quand il est bien défini, est discuté avec les dirigeants d'hygiène dentaire pour coordonner et aider les projets des provinces. Neuf des dix provinces ont organisé des Sections dentaires, qui sont dirigées par des dentistes diplômés en hygiène publique. Sept de celles-là ont été mis sur pied durant ces derniers trois ans, grâce aux octrois fédéraux de santé.

Fonds de la Chaire George W. Grieve

Les souscriptions en faveur du fonds de la chaire George W. Grieve se chif-

frent actuellement à \$2,431.00. Ces souscriptions viennent de partout. Une partie considérable de ces argents vient d'en dehors du pays, constatation qui prouve l'estime qu'on avait pour le Dr Grieve, dans tous les milieux.

Le but de cette souscription est de défrayer l'organisation d'une série annuelle de cours sur une base permanente. Cette souscription doit être suffisante pour créer un fonds, dont les intérêts seuls seraient utilisés. Pour ce faire, le montant doit être assez imposant. Les chèques peuvent être adressés au secrétaire, Association Dentaire Canadienne, 234 rue St-George, Toronto. Un reçu servant en déduction de l'impôt sur le revenu sera retourné promptement aux souscripteurs.

Du nouveau contre la carie dentaire-1*

par J. B. GRISWOLD

A l'heure actuelle dans le Wisconsin, moins d'enfants ont à passer chez le dentiste. Et lorsqu'ils seront grands, ils porteront moins de fausses dents, de ponts et d'appareils.

Toujours en tête du progrès sanitaire, l'Etat du Wisconsin est en train, en ce moment, de remporter la bataille contre la carie dentaire, en ajoutant tout simplement des fluorures à l'eau potable. En 1943, on avait révélé que la proportion de caries dentaires était remarquablement faible dans certaines localités comme Colorado Springs, Colorado; Green Bay, Wisconsin; Amarillo, Texas; Conway, Caroline du Sud; Webster City, Iowa; Clovis, Nouveau-Mexique; et Galesburg, Illinois—où l'eau contient des fluorures naturels.

L'email dentaire des personnes qui boivent de l'eau potable contenant des fluorures à l'état naturel durcit de telle sorte que le nombre des caries diminue de 65% environ. Il faut cependant que ces fluorures, incolores et insipides au demeurant, se fixent sur l'email pendant la période de croissance des dents. Sur

les dents des enfants qui consomment régulièrement de l'eau fluorurée jusqu'à l'âge de 16 ans environ, il se forme une sorte de blindage qui les protège contre les caries pour le restant de l'existence. Si les fluorures ne préviennent pas l'apparition de toutes les caries, ils rendent cependant les dents si dures, disent les dentistes, que le passage de la fraise devient alors moins douloureux.

A l'heure actuelle, dans le Wisconsin, certaines municipalités ajoutent des fluorures à leur eau lorsqu'elle n'est pas naturellement fluorurée. Trente localités livrent déjà à la consommation de l'eau fluorurée, 36 sont en train de faire les installations nécessaires, et 30 autres au moins étudient des projets. Dans le nombre, on relève les villes de Milwaukee et de Madison, capitale de l'Etat. En dehors du Wisconsin, seules 10 agglomérations, aux Etats-Unis, fluorurent leur eau potable. Mais l'exemple fait tache d'huile et, dans presque tous les Etats et au Canada, on étudie et on expérimente la fluoruration.

En 1944, l'Association dentaire de

*Articles déjà parus dans la sélection du Reader's Digest, mai, 1951.

l'Etat du Wisconsin chargea une commission de comparer les fluorures naturels et artificiels, et de déterminer l'effet produit par les seconds sur l'organisme.

—Les fluorures naturels et artificiels en dissolution dans l'eau sont identiques, déclara le Dr Starr Nichols, professeur de chimie sanitaire à l'Université du Wisconsin, après avoir mené une enquête approfondie. D'autre part, tant que leur teneur dans l'eau potable ne dépasse pas un millionième, les fluorures artificiels restent sans danger.

On signala cependant plusieurs cas d'apparition de taches brunes sur l'émail dentaire, mais les savants s'accordèrent à reconnaître que de tels accidents ne se produisent jamais lorsque la teneur en fluorures est inférieure à 1.5 millionième. Aussi, en mars 1945, l'Association dentaire du Wisconsin recommanda-elle à l'unanimité la fluoruration des eaux.

Sheboygan fut la première ville du Wisconsin à bénéficier de la fluoruration. Les résultats obtenus après 44 mois d'application démontrent clairement que l'eau fluorurée produit ses meilleurs effets lorsque les enfants commencent à en boire de bonne heure. Dans les écoles maternelles, le nombre des caries a diminué de 39.6%, contre 24.4% dans les classes primaires et 18% dans les classes secondaires. A Brantford, Ontario, où le gouvernement canadien poursuit une expérience depuis trois ans et demi, on a constaté des améliorations de 47% chez les enfants de 5 ans et de 23% chez les enfants de 5 à 16 ans.

La réduction maximum du nombre des caries — 65% — ne s'observera que chez les enfants qui auront bu de l'eau fluorurée de leur naissance jusqu'à 14 ou 16 ans.

Du nouveau contre la carie dentaire—II

par J. D. RATCLIFF

Voici cinq ans, aux Etats-Unis, plusieurs municipalités qui cherchaient un moyen de faire décroître le nombre des caries dentaires annoncèrent qu'elles tenaient une expérience. Il s'agissait d'ajouter des fluorures à l'eau potable.

Puis l'on n'entendit plus parler de rien. Mais entre temps, des dentistes étudiaient les statistiques locales sur la carie, pour voir ce qui se produisait. A Newburgh, sous les auspices du Service de Santé de l'Etat de New York, eut lieu une expérience d'une extrême minutie. Dans cette ville, la proportion des caries diminua de façon assez significative pour indiquer d'abord qu'un pas important venait d'être fait dans le domaine de l'hygiène publique, ensuite que l'on possédait un moyen de réduire notablement les frais de soins dentaires.

Deux villes presque identiques, Newburgh et Kingston, furent choisies comme cobayes. Elles sont toutes deux situées sur la rivière Hudson, à 32 miles de distance. Elles comptent à peu près le même nombre d'habitants (30,000 environ) et d'écoliers (3,000 environ). Les eaux

qu'elles utilisent toutes deux sont pratiquement dépourvues de fluorures. De plus, on s'était aperçu, par comparaison, que les habitants de ces deux villes étaient victimes d'un nombre à peu près égal de caries dentaires. On décida de fluorurer l'eau potable de la seule ville de Newburgh, Kingston devant servir de témoin.

Sous le direction du Dr David Ast, directeur du Service d'hygiène dentaire de l'Etat de New York, une équipe de dentistes commença par se livrer à un examen préliminaire des écoliers des deux villes. Décision fort judicieuse, car les dents enfantines sont les plus vulnérables. (Si nos dents continuaient de se carier à la vitesse à laquelle elles se gâtent lorsque nous avons 10 ans, nous serions tous édentés à l'âge mûr.) D'autre part, il est facile d'examiner des enfants dans des salles de classe, où les dentistes peuvent travailler avec un matériel portatif.

Des préparatifs de l'expérience demandèrent un an. Pendant ce temps, les récriminations affluèrent. Des habitants de Newburgh se plaignirent que l'eau fluorurée attaquait les casseroles, gâtait

le goût des boissons gazeuses et provoquait des troubles digestifs. Une vieille dame accusa même le produit d'avoir fait "fondre" son dentier! Le plus drôle, c'est que toutes ces réclamations furent faites *avant* qu'on eût commencé à fluorurer l'eau de la ville. Après le 2 mai 1945, date à laquelle on incorpora à l'eau de la ville du fluorure de sodium en poudre dans une proportion de 1.2 millionième, personne ne dit plus rien.

Par la suite, les enfants des deux villes subirent un examen dentaire annuel. Le Dr Ast a récemment déposé un rapport préliminaire, car l'expérience doit durer jusqu'en 1955. Mais d'ores et déjà, à chaque examen, on s'aperçoit que la proportion des caries diminue à Newburgh tandis qu'elle reste constante à Kingston. A l'heure actuelle, la différence atteint 30% et la courbe à Newburgh continue de baisser.

Il faut bien insister sur le fait qu'il est *dangereux d'ajouter soi-même du fluorure de sodium à l'eau*. Une teneur trop forte produit une destruction partielle de l'émail des dents. En outre, lorsqu'il est pris à fortes doses, le fluorure de sodium est un poison violent.

Aux Etats-Unis, la plupart des villes sont approvisionnées par des eaux de

surface, qui ne contiennent pour ainsi dire pas de fluor. On trouve surtout du fluor dans les eaux de sources profondes. La fluoruration de l'eau va avoir pour effet d'éliminer au moins un tiers des caries dentaires qui coûtent si cher à soigner.

Le prix de revient de la fluoruration de l'eau est pratiquement négligeable. On peut se procurer facilement les machines qui ajouteront les doses voulues de poudre de fluorure de sodium à l'eau potable. (On utilise des machines analogues dans les minoteries pour le blanchiment de la farine.) Une machine de \$350 suffit à fluorurer le volume d'eau nécessaire à une ville de 30,000 habitants, comme Newburgh.

Le fluorure de sodium est un produit très bon marché. Pour fluorurer la quantité d'eau que boit annuellement une personne, il n'en coûte que 10 cents environ. Les savants pensent du reste pouvoir utiliser avec le même succès un autre corps chimique encore moins cher, le fluoro-silicate de soude, sous-produit de l'industrie des engrais phosphatés. On parviendrait, de la sorte, à abaisser le prix du traitement de l'eau à moins de 3 cents par personne et par an. Dans le domaine sanitaire, c'est probablement l'aubaine la plus avantageuse jamais offerte!

CONGRES DE L'ASSOCIATION DENTAIRE CANADIENNE ET DE L'ASSOCIATION DENTAIRE DE L'EST DE L'ONTARIO A OTTAWA, LES 23, 24, 25 ET 26 SEPTEMBRE 1951

Ce Congrès National des dentistes canadiens est l'événement professionnel le plus important de l'année.

On prie les confrères, qui n'ont pas encore retenue leurs chambres d'hôtel de la faire sans tarder, car le nombre des inscriptions est considérable et les places disponibles au Château Laurier sont limitées.

On s'adresse au Dr H. N. Beach, 150 rue Metcalfe, Ottawa, en joignant à la demande la somme de quinze dollars, qui couvre les frais d'inscription au Congrès.

Le programme scientifique de ces journées a paru dans la livraison de juillet du Journal; il couvre toutes les phases de l'exercice de la dentisterie.

Les activités sociales de cette réunion plairont à tous les dentistes et leurs épouses.

Inscrivez-vous tout de suite au

Congrès National dans la Capitale du pays!



Photo from Canadian Government Travel Bureau

**The summit of the South Peak of Mt. Victoria,
with Lake O'Hara at its base, in Banff National
Park, Alberta, Canada.**

*The greatest thing in the world is the Child,
The greatest profession in the world is Motherhood,
The greatest institution in the world is the Home,
The greatest force in the world is Love.*

A. H. SOVEREIGN, F.R.G.S.
Bishop of Athabaska



JOHN W. CLAY, L.D.S., D.D.S., F.I.C.D., LL.D.
Calgary, Alberta

President of the Western Canada Dental Society 1951.

President of Canadian Dental Association
1926-1928.

Honorary Lecturer, Faculty of Dentistry,
University of Alberta.



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Dental Health in Public Health*

by G. EDWARD HALL,† M.S.A., M.D., Ph.D., F.R.C.S., London, Ontario

THREE years ago, on May 17, I had the opportunity of addressing the meeting of the Ontario Dental Association and selected as my subject "Dentistry and the Canadian Health Problem." At that time, in a word of explanation, I attempted to clarify my status in connection with such a subject. It was not that I knew something of Dentistry or was an authority on the Canadian Health Problem. My interest in Dentistry at that time was chiefly because it, like Medicine, dealt with human beings; my interest in the problems of Health then was because they too were concerned with the peoples of our country. It was with those interests and with the belief that the total overall health of the people of Canada influences, in a large measure, our National economy and reflects to a somewhat comparable extent our lives as happy, prosperous and intelligent citizens that I spoke to your Association on that occasion.

And so today I am the more appreciative of having been invited back to be with you and to participate in your meetings. I am back today looking at the same problem which I discussed three years ago, looking at it from basically the same point of view but with added realization of its tremendous significance and actual urgency. "Dental Health in Public Health"—

that is the subject of my address today. Does it have meaning? I am so sure that it has. It has if we can look at this whole picture without too much bias; it has if we can look at it as a matter of national concern; it has if we can look at it from an educational point of view; it has if we will permit ourselves to face facts; it has if we recognize that "public health is people."

It is simply restating that which has long been known to say that when the people of a democracy wish to have something they invariably get it. And so we see over the past number of years, and with increased momentum especially during the past few years, a growing realization on the part of the public that an adequate health service is fundamental to a sound national economy and national welfare. We are aware of plans at every level of government which have as their intent an improvement in the health of the people. We see too an increasing emphasis on the creation of various health associations, groups interested in specific health fields and organizations set up for the collection of monies to support the associated work. We find also great efforts being expended by service clubs and fraternal organizations in the support of specific health projects. Why are these things taking place? They are taking place because the public, of

†President, University of Western Ontario.

*Presented as a luncheon address before the Ontario Dental Association Convention, May 1951.

which these groups are a part, realize that improvement in the health of our people is desirable.

SUCCESSFUL HEALTH SERVICE

As much as I am in favour of this stirring and active interest in these health projects I cannot help wondering if we have not lost sight of something fairly important. No one can deny that the Canadian Cancer Society, the National Cancer Institute and the provincial organizations for the study and control of cancer are important. No one will deny that the work of Tuberculosis Associations has been of remarkable significance. The efforts of the Canadian Heart Association are truly important; the Canadian Mental Health Association has contributed in an outstanding fashion to our understanding and knowledge of the psychoses and the neuroses; the Canadian Association on Rheumatism and Arthritis, too, is important. Investigations into diabetes, poliomyelitis, and cerebral palsy are sponsored by groups of interested lay and professional people. Are we to anticipate, on the basis of this obvious trend, comparable associations or support for the study of additional specific diseases such as nephritis, gall-bladder disease, peptic ulceration, glaucoma, the muscular dystrophies, thyroid disease, and others? Where are we going? And every one of these "disease" associations is doing good, constructive work but each one, too, is appealing to the public for financial support. To say that there is confusion on the part of the public is simply to admit that we are tending to dissect the body and extract, for public support, the disease entity. And just how far can the householder's or the businessman's dollar be stretched? It is possible that there will not be enough for all of the worthy causes. Please do not imagine that I have the answer for this problem. I haven't. But I do think that the problem is a real one and that it will have to be faced one day and a solution found—not to the abandonment of the

study, treatment and control of disease but in the interest of the patient as a whole, the individual who is ill and in the prevention of illness in the person who is well. The positive features of health should not be neglected in favour of the negative aspects of disease.

We all recognize that treating disease is much more glamorous than preventing illness. We realize that the Queen Ann front on the modern car agency is supported by the garage in the Mary Ann behind. And if the taps didn't leak, if the eavestrough didn't wear out, and if the fuses didn't blow there would be a lot of plumbers, tin-smiths and electricians — not out of work—no—they could be doing something more constructive. They could be employed explaining to people how to prevent a leaky tap — simply by closing it tightly, or educating people that by removing the sodden masses of leaves from the eavestrough the pipes would clog less and rust less, or smartening people up to the fact that if they do not over-load the line fuses will not likely blow out. The analogies are not too farfetched when transposed to the health professions.

Three years ago here I said that "the changing of a concept in health is slow." So too is the tortoise. And progress can be made only when a sufficient number of people, again like the tortoise, are willing to "stick out their necks." When are we, as supposedly smart men and women in the health professions, going to realize that we can either continue to give leadership in health or we can resist the changes which are inevitable and which the people desire? If we do the latter, we simply lose the prestige and freedom which have been inherent in our professions in the past. If we are to take advantage of our present position and keep it where it should belong all we have to do is to realize that a successful health service, and that is what the public wants, either organized through health agencies or promoted through the recognition of newer responsibilities by practitioners of the healing arts,

depends basically and primarily on medical education, dental education and nursing education.

SHORTAGE OF DENTISTS

Let's take a look at the picture. You can't, or shouldn't, criticize a painting, or a play, without having seen the picture or the performance. Yet we find people making decisions about medical, dental and nursing education without the picture in full view.

In 1938, which is a good yard-stick, there were full medical schools at Dalhousie, Laval, University of Montreal, McGill, Queen's, Toronto, Western, Manitoba and Alberta — 9 of them. They graduated about 500 men and women, a number which had been fairly constant for some years. Canada's population that year was approximately 11 million. At that time too there were about 10,000 medical doctors practising in the Dominion—a ratio of 1 per 1100. By 1951 the population of Canada has increased, on an estimate basis, to more than 14 million; the increase in the population of Ontario alone in those 13 years is estimated to be more than 25% to some 4½ million. But since 1945 there are no longer nine medical schools in Canada—there are 12. University of Ottawa, University of Saskatchewan, University of British Columbia have added faculties of medicine to help supply the vast numbers of medical doctors needed for the government agencies, national defence, industry, and private practice. We are no longer a nation with a more or less static population. We are growing—our frontiers are being pushed back again, our agencies, health units and industry require more and more doctors—to the point where in order to maintain an effective practising ratio of approximately 1 per 1000 three new medical schools have been established in the past six years.

That same increase in our population, those same demands being made for more adequate health services affect not only the medical profession but also the dental profession. In 1938, with our

population of 11 million there were slightly more than 4000 dentists in practice—a ratio of 1-2700. Only five universities in Canada had dental schools then—but unlike the development of medical schools, we find that today there are still only five dental schools—Dalhousie, McGill, University of Montreal, University of Toronto and the University of Alberta—at a time when our population is 14 million, when the need for more dentists is apparent and when the responsibilities of dentists are reaching a new climax. And if we look closely at the figures of enrolment of undergraduate students in the dental schools of Canada for 1951 we find that there are 297 seniors, 205 juniors, 200 sophomores and 175 freshmen. The number of graduates in Dentistry after 1952 will barely affect a replacement for those who will leave practice from death or retirement, let alone look after the expanding needs for greater services and our greater population. Add to this the fact that some 90% of the practising dentists in Canada are to be found in urban centres and you realize the need for greater numbers of dentists in much of Canada.

It is so apparent that from the point of view of numbers alone the supply of dentists is inadequate to meet even the present needs of the people. Should the people of Canada receive less service in this connection than those in the United States where the over-all average is one dentist to 1800 of population and should the relatively heavily populated and prosperous province of Ontario be satisfied with any less number of dentists per unit of population than the New England States where the ratio is 1-1300? And just consider that health conscious country of Sweden where with a population of only 6½ million they are planning for 270 graduate dentists per year. And Canada with its 14 million can only count on 205 graduates next year and a maximum of 175 two years hence. An increased number of graduates in dentistry in Canada is imperative; an in-

crease in the number of dental schools is essential and we must remember now that even if one or more new Faculties of Dentistry were created this year it would be at least six, if not seven years, before these new schools would be able to graduate their first classes. Seven years—to wait, while our population continues to increase, while the people continue to demand more dental service, while the well-conceived plans for the improvement of the public's health continue to be frustrated through lack of personnel.

DENTAL EDUCATION

That is one side of the picture only. The other side of the picture is actually just as acute and of even greater fundamental importance—the problem of dental education itself. It is naturally with some diffidence that I even venture to discuss certain aspects of this subject and it is only with the realization that some major changes in medical education are long overdue that I feel free to touch on dental education at all.

The Canadian Dental Association has prepared "a Charter for Dental Health" and in presenting its "positive approach to dental health" it states that "dental diseases and their sequelae affect detrimentally the health of 9 out of 10 Canadians . . . The continuous presence of disease in the mouth has not only local manifestations but is a potent contributory factor to many of the degenerative diseases." . . . "Up to the present time the main method of attack has been one of repair. This has been a losing battle as disease is occurring faster than treatment can be supplied. The incidence of dental diseases is increasing year after year. It is obvious that another and better approach must be made." As a means of approach the Canadian Dental Association states that "the aim of a dental health program should be prevention." There is the problem and the stated approach and I am sure that all of you have taken the opportunity of reading Dr. Stewart MacGregor's article "Let's Face the

Facts" which appeared in the May issue of the *Journal of the Canadian Dental Association*. Dr. MacGregor in no unhesitating fashion has given us all a vivid picture of the problem. He warns us that "when we fail in our responsibility to the public, aroused public opinion will leave the government with only one choice—namely the inauguration of some state plan" and he went to the heart of the problem when he said that "the education system of the past placed too much emphasis on mechanics with not enough thought given to prevention." Dr. MacGregor gives consideration to many of the phases of the whole problem of dental education and strikes a note which has been less well expressed, but nevertheless stated, by dozens of practising dentists when he said in tracing the history of dentistry that he thought it was unfortunate that dentistry had not continued to develop along the lines which would have made it possible for the dentist to become recognized as a specialist in medicine. In that, I am sure that he, and others, were simply focusing attention on the fact, that, stripped of pretense, the dental schools in the United States and Canada, in general, train students in the skills involved in the construction and application of artificial substitutes for dental structures lost through disease and trauma. These points are emphasized, not at all in the spirit of censure but rather to mark a boundary to be dealt with when considering the future of dental education.

SYSTEMIC COMPLICATIONS

Between dentistry and medicine, as now constituted, there is a great gap in health services because neither of them give adequate attention to the systemic implications of oral anomalies. There is a way of bridging this gap, a way which would make both medicine and dentistry stronger. It simply requires an analysis of the procedures and objectives of both schools, dental and medical, and an unbiased view of the results. Dr. MacGregor obviously sees it—"In the history of dentistry we see

an evolution wherein the dental profession broke away from the medical faculty, thus leaving the dentist a craftsman interested mainly in mechanics. On the other hand the physician was left almost ignorant of the subject of dentistry." "The mechanical training in dentistry has influenced our thinking." By far the greater part of the dental graduates' time and energy is spent on reparative dentistry. It is what, unfortunately, the public expects of him. Yet, the limitations of this service are apparent. The popular estimate that only 25% of the people of this country now receive adequate dental care from 4000 dentists indicates the need of something like 12,000 dentists to care for a substantial majority of the population. To think that such a number can be trained through increased enrolment in present schools and the creation of new ones, alone, is nonsense.

These practical consequences emphasize the situation resulting from failure to consider dental disease as a medical problem. Because it is so general it seems to have been looked upon more as a necessary evil than a possible expression of and influence upon bodily conditions. Caldston stated once that "a decayed tooth is an open ulcer, a break in the protective integument of the body, a breach in its defence walls." The situation, as it exists today, points directly to the need for a concerted effort to unearth the reason for the overwhelming demand for prosthesis. Tooth decay, for instance, can be controlled and prevented only with knowledge of the factors of which it is an expression, not through the perfection of substitutes for the damage it does.

SPECIALIZATION

Mind you, the dental school exemplifies the advantage, as well as the disadvantage, of specialization at undergraduate level. Techniques have been perfected far beyond that possible under broader interests. And one can appreciate that the personal satisfaction derived from the ability to do

things with skill and dispatch triumphs over the desire for an understanding of their intrinsic value.

The program of the dental school is perhaps consistent in its degree of specialization with historical American trends in many fields. But the intellectual and physical separation of the different phases of clinical instruction gives the student the deceptive impression of departmental completeness and breeds further specialization; orthodontia, prosthodontia, paedodontia, periodontia, endodontia, exodontia — this departmentalization suggests self-sufficiency and encourages the present trend. Perhaps this is not an unmixed blessing.

Take, for example, orthodontics. Malocclusion of the teeth is, in most instances, an expression of the growth and development phenomena of their supporting and surrounding structures. And yet, the main interest of the orthodontist is in the construction and manipulation of appliances. The reduction of occlusal anomalies is viewed chiefly as a mechanical problem of tooth alignment with little or no consideration for the underlying factors. Constitutional factors, physiological age, natural growth and developmental changes, metabolic and endocrinological influences and normal variations are given scant consideration. The orthodontist is simply a product of the times—don't condemn him before we ask ourselves whether his professional education and training have equipped him for the job which he has to do today.

Look for a moment too, at the anachronistic sequence in the preparation of the oral surgeon. Trained in dental surgery he extends his activities into the maxillo-facial area without having had a basic experience in medicine and general surgery. And there are many general surgeons who, without fear and without adequate knowledge of dental structures, blithely proceed with major facial, maxillo and mandibular repairs. Such a situation does not foster mutual respect between the dental and medical professions. Ex-

odonists, those who confine their activities to the removal of teeth and the pathological conditions directly connected with them, are of an entirely different order.

DENTISTRY IS ORAL MEDICINE

Dentistry is, in its final analysis, oral medicine. What a difference that philosophy would make in the whole educational and training program. It could eliminate so much student time which is given over to the training in procedures which almost every graduate in dentistry delegates to a commercial laboratory or to a mechanic in his own laboratory. The truth is that men and women who have never been to a dental school excel in a phase of dental service near to the hearts of many of the licensing boards on this continent.

I am afraid that the biological sciences, those sciences and disciplines which underly the knowledge of the normal body, its functions and its processes of metabolism, are being sacrificed on the altar of the mechanical arts. Those basic medical sciences—biochemistry, physiology, biophysics, pathology, bacteriology and pharmacology—are the bed-rock of all health service. They should not be diluted if our positive approach to dental health is to be effective. Manual dexterity, important as it is, should not at the undergraduate level take precedence over science.

The universities on this continent have become a collection of relatively independent faculties and training centres rather than, as originally conceived and more then ever necessary, a unity of purpose in education. But in spite of the trend toward independent status, the fact remains that with the increasing recognition that medicine, dentistry and nursing, together and only together constitute the core of public health, the interdependence of dental and medical schools becomes more and more apparent. Even so, to achieve the integration of these two schools at many universities is, at the present time, practically impossible. The professional, social and

economic barriers to be surmounted, the academic and administrative adjustments to be made and the spirit of cooperation and mutual respect to be fostered constitute a wall, artificial to be sure, but a wall difficult to penetrate. But penetration is not the only way to get to the other side of the wall. The wall can be climbed but one can also get to the other side by having the double lock unlocked on each side and entrance made through the mutually opened door.

In spite of difficulties, in spite of unwarranted suspicions, the potentialities of a greater coordination in dental and medical education justify all of the headaches which it would incur. Advancing knowledge of health and disease and the challenges which it entails show clearly that the isolation of any one of the health schools and the segregation of departments favour narrow interest and superficiality of understanding on all sides.

The purpose of all service within the realm of medicine, in its broadest sense, is to assist in establishing and maintaining the optimal physical and mental adjustment of the human individual; in short, his health. This means that the individual is to be considered as an organic unit, an entity which cannot be separated from his physical and social surroundings, nor can his several organs and humeral systems be dealt with irrespective of each other. No longer is the individual thought of as a collection of detached parts, each growing and functioning in splendid isolation. Consequently the exposition of one part cannot logically be delegated to and designated as the exclusive right of one department; and yet we see in some medical schools, the establishment of Departments of Oncology! A greater degree of integration of the health schools, dentistry and medicine, is no longer just an intellectual abstraction; it is in the interest of the health of the people of this country; it is common sense.

As they are now constituted, sep-

arate and distinct, many times irrationally conscious of traditional prerogatives, an effective amalgamation of the program, or parts of the program of medical and dental schools cannot be accomplished simply by a cursory decision of what belongs to whom. It demands a dispassionate, critical study of their respective objectives, course content and the method of its presentation.

One can believe, enumerate, fairly satisfactorily the objectives of a Faculty of Dentistry and of a Faculty of Medicine—for today. Yes. But fortunately the objectives of both schools are not fixed; they are constantly changing. "Training is aimed at a fixed objective while education is directed toward a moving one". Medical and dental teaching consequently must be directed toward education rather than training. Otherwise the effectiveness of the graduates of both schools in establishing and maintaining the health of our citizens will be compromised by the pressure of mediocrity.

And in the field of research. It is so encouraging to see more and more research being sponsored within the dental profession. The whole field of preventive dental medicine opens up

vast new fields which are still just horizons. Just imagine what can be done in research, with men in the basic sciences working together with clinicians in medicine, with clinicians in dentistry. Look what endocrinology alone might have to offer to dentistry and the dental problems of the pregnant woman.

The way is open for the advancement of knowledge through the development of new concepts and I believe that there will be in this country, some day, a new approach to education for the health services. An approach which will make it possible for the students in dentistry and the students in medicine to work together and to study together under the same inspiring members of staff, not only through their basic phases of education and through their basic sciences but also in certain courses at clinical level so that they may all have an understanding and appreciation of the total body, in health and in disease. Then, the positive approach to dental health, the positive approach to mental health, the positive approach to physical health will mean the positive approach to public health. "Public Health is People".

ANNOUNCEMENT

Program to Date—Twenty-Seventh Annual Clinic, Montreal Dental Club

PROGRESSIVE CLINIC

on FULL DENTURES by Capt. A. H. Grunewald, U.S. Marine School.

REGISTERED CLINICS

1. Dr. J. H. Johnson, Toronto—ORAL SURGERY.
2. Dr. A. F. Romine, Detroit—CONSERVATION OF ORAL STRUCTURES.
3. Commander P. A. Moore, U.S. Naval School—OPERATIVE DENTISTRY.
4. Prof. H. M. Worth, Toronto—RADIOGRAPHY.
5. Dr. K. C. Prudew, Patterson, N.J.—CROWN AND BRIDGE.
6. Local clinician to be announced.

ESSAYISTS

W. W. Wainwright, University of Ill.—DENTAL INVESTIGATIONS with RADIO ISOTOPES.

Dr. A. G. Racey—DENTAL PATHOLOGY.

R.F.H.

DENTAL CARIES

1. A Discussion of the Aetiological Factors

by GORDON NIKIFORUK, D.D.S., M.Sc., Toronto, Ontario

INTRODUCTION:

THE concluding remarks made by the panel members participating at the latest "Dental Caries" symposium, held at San Francisco, are indicative of the confusion that exists in dental scientific circles regarding the basic aetiological factors of the caries process. The answers received to the question "what is the aetiological cause of dental caries?" are summarized below.

Dr. Volker, (1950): "I think it is the retention of fermentable carbohydrates in the mouth, the presence of bacteria within the oral cavity, and specifically on the tooth surface, plus a physical or chemical susceptibility of the enamel surface to the products of the interaction of the first two mentioned materials, the refined carbohydrate and oral bacteria enzyme system. Whether it is acid directly or indirectly, or whether it is some bacterial metabolic product which is unrelated to acid, is a matter of conjecture."

Dr. Fosdick, (1950): "I would say everything that Volker said was exactly what I believe, with these exceptions: I would say that in the final analysis, the enzymes were the important substance and, of course, they are made by the bacteria. I would also go so far as to say I believe it is the mechanism of acid on the calcium content of the tooth that is responsible for the carious lesion."

Dr. Becks, (1950): "I agree with Dr. Volker and Dr. Fosdick."

Dr. Pincus, (1950): "I agree with Dr. Fosdick, about the presence of acid in caries. We differ as to the source and kind of acid."

Dr. Boyd, (1950): "I do not know."

Dr. Sognnaes, (1950): "The most probable conjecture on the origin of

caries is that the cause was imbibed at a time of the formation of the tooth due to an abstracted action of the formative vessels which prevented a tooth from reaching the degree of perfection necessary to give it length of existence." (Quotation from Dr. Murphy, 1812).

The diversity of opinions expressed must not be interpreted as a fundamental disagreement regarding the aetiology of dental caries. Rather it is an indication of the great number of variables that exist in the complex caries process. Separate research workers pursuing different and isolated variables obtain results that may be interpreted as unreconcilable with each other; essentially the variables may be a part of the entire process of the development of the dental caries lesion. Abandonment of the feeling that a single mechanism must be adopted to explain the entire process of dental caries would eliminate many polemical discussions so characteristic of literature in this field. The object of this paper is to consider some fundamental biochemical principles related to tooth structure and caries aetiology. A subsequent article shall utilize this information, as the basis for a critical evaluation of the mechanisms of action and efficacy of the newer methods of caries prevention.

CHEMISTRY OF THE ENAMEL AND DENTINE

Inorganic salts, with a crystal structure resembling hydroxyapatite ($3 \text{Ca}_3(\text{PO}_4)_2 \text{Ca} (\text{OH}_2)$) comprise 95.6 per cent of enamel (Hodge, 1937). The enamel-apatite is ionic, with its constituent ions spaced at fixed positions throughout the crystal lattice. The entire crystal measures about

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3×10^{-6} cm, on a side (Fosdick, 1950); each rod has about twenty crystals through its diameter. One of the outstanding properties of the enamel-apatite crystal is that it can tolerate a large number of substitutions, particularly of the hydroxyl group. The substitution of the "OH" group by fluoride to give fluoride-apatite seems possible. The inorganic elements of the enamel rod thus consist of a labyrinth of calcium, phosphate and hydroxyl ions, and in some cases other anions and ions. Enamel-apatite is relatively indestructible, but is very susceptible to acid action.

The organic matrix of enamel and dentine is protein. The enamel organic matrix consists of a keratin-like protein (Rosebury, 1930; Block et al, 1949) and a muco-polysaccharide (Engel, 1948); the dentine of collagen. The former is epithelial in origin, the latter is derived from connective tissue elements. Protein molecules are relatively large and most of the molecules are non-ionic; however, at periodic intervals along the carbon chain ionic centres may exist, so that groups such as the carboxyl and the amino groups would normally be centres of ionization. It is possible for the carboxyl group to bind a calcium ion (Fosdick, 1950). This would explain the non-staining characteristics of the organic substance in an undecalcified tooth specimen. Calcium proteinates do not possess the staining properties of the free protein. The organic part of the tooth is relatively resistant to acid action but is readily broken down by alkalies or suitable proteolytic enzymes.

We can thus visualize enamel as consisting of rods of closely packed ionic crystals probably in combination with the protein moiety of the tooth. These rods are surrounded by the so-called cementing substance which differs from the enamel rod primarily in density or compactness of the inorganic crystals. Figure 1.

The chemical constitution of the tooth imparts the property of extreme

hardness to enamel—a characteristic essential for trituration of food. Such a high degree of specialization in a tissue, unfortunately, has an inherent weakness. The tooth amidst an extremely variable environment, because of its high degree of specialization, plays a rather passive role. The vital defense of enamel against the attacking forces in the mouth is, therefore, weak if at all existent.

What are the potential mechanisms present in the mouth that can break down tooth tissue? These problems are next discussed and evaluated.

THEORIES REGARDING AETIOLOGY OF DENTAL CARIES

The various attempts to explain the aetiology of dental caries may be conveniently grouped into three theories: the acid decalcification theory; proteolytic theory, and Pincus' sulphatase theory.

I. Acid Decalcification Theory:

With some modifications the acid decalcification theory is essentially the same as produced by Miller in 1890. According to this theory the initial mechanism in the caries process is the disintegration of the inorganic elements of the tooth by acid decalcification. The acids are produced by bacterial enzymatic action upon a readily fermentable carbohydrate substrate. The acid action is localized to the tooth surface by means of dental plaques and is accompanied by proteolysis of the organic material (Easlick, 1948).

II. Proteolytic Theory:

According to the proteolytic theory the carious process is initiated by proteolysis of the organic structures of the tooth by microorganisms invading the lamellae, and enamel sheaths of the tooth. Proteolysis is characterized, histologically, by the presence of yellow pigmentation. Signs of acid action, are admitted to be present, but these are symptomatic, and not aetiological (Gottlieb, 1947).



FIGURE 1

Sound enamel surface, etched 5 seconds with 0.1N HCl, x 8,280 under electron microscope. Note raised organic residue of cementing substance impregnated with the same crystals as are present in the rod. Courtesy of Dr. James Kennedy, University of Northwestern.

III. Theory of Pincus:

According to Pincus (1937, 1940, 1950) a bacterial enzyme, sulphatase, may release bound SO_4 ions from the organic part of the tooth leaving them free to take up an inorganic calcium sulphate form. The initial freeing of sulphuric acid, from its combination with a polysaccharide in the organic matrix of the tooth, is the main feature of this theory. Pincus states that acid is the primary factor in dental caries, but that this acid comes from within the tooth itself and not from bacterial action upon fermentable carbohydrates.

Mechanism of the Carious Process:

The actual exciting causes of dental caries are probably only two—bacteria and a suitable substrate for the bacteria. The preliminary reports from Notre Dame (Orland, 1950), where ex-

periments on "bacteria free animals" are in progress, indicate that no decay can occur without bacteria. The converse of this statement, i.e., where there are bacteria there must be caries is not correct. Therefore, the presence of bacteria, a suitable substrate, an organic plaque to localize bacterial action and the tooth itself appear to be the four requisites for the development of the caries process. Figure 2.

Basically, tooth tissue may be disintegrated by one or a combination of two mechanisms.

1. Dissolution of the inorganic elements of the tooth.

2. Disintegration of the organic (protein-polysaccharide) ground matrix. Bacteria, since they are involved in the caries process, can disintegrate tooth substance by elaboration of a metabolite, as lactic acid, which dissolves the inorganic elements of the

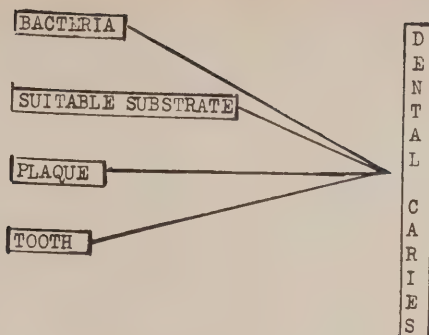


FIGURE 2

The four requisites for the development of a dental caries lesion.

1. EXCITING FACTORS IN THE CARIES PROCESS.

2. METHODS BY WHICH BACTERIA CAN DISINTEGRATE TOOTH SUBSTANCE.

3. MECHANISM OF THE CARIES PROCESS.

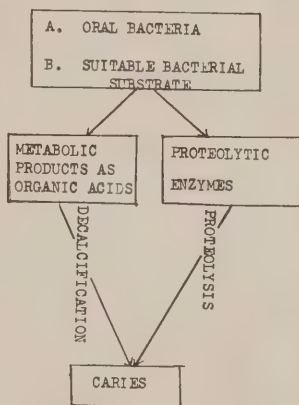


FIGURE 3

Mechanism of the Caries Process.

tooth; or by the production of proteolytic or other enzymes capable of breaking down the organic matrix of enamel. The exciting factors and mechanism of the caries process are summarized in Figure 3.

It must be emphasized that dental caries is not an infection in the true sense of the word. The "parasitic" and "toxic" elaborating powers of bacteria are not responsible for the initiation of dental caries. The "micro-organisms of dental caries are indigenous parasites of the mouth which act to produce dental caries only by taking advantage of other conditions which encourage or restrain the inciting microbial activity" (Rosebury, 1944). The en-

vironmental factors of the mouth, as the substrate obtainable by bacteria, therefore, plays a cardinal role in setting the stage for bacterial activity. The bacterial acid metabolite is again an accidental by-product of a biological energy yielding process. It is, indeed, ironical that the enzymatic process utilized by bacteria, in the production of energy through the degradation of sugar, is similar if not identical to the chemical process utilized by all living tissue.

The fundamental question that remains is which mechanism, acid decalcification or disintegration of the organic matrix of the tooth, is the primary process in dental caries.

EVIDENCE TO SUPPORT ACID DECALCIFICATION THEORY

Enamel-apatite, which comprises 96 per cent of the enamel is not stable below a pH of 5.0 (Enright et al, 1932). Mechanisms for production of pH's low enough to cause enamel decalcification have been demonstrated on tooth surfaces (Stephan 1938, 1940). On the other hand, studies of bacterial enzymes capable of disintegrating the organic part of enamel are inconclusive. Keratin is one of the most resistant of all proteins to proteolytic enzymes. Therefore, on the basis of chemical composition the inorganic elements of the tooth are more vulnerable to the environmental forces existent in the oral cavity than the organic elements. Other evidence to support the acid decalcification theory is abundant.

Bacteriological studies indicate that oral bacteria possessing glycolytic* powers are numerous. Most of the glycolytic bacteria are capable of utilizing sucrose as a substrate, and elaborate organic acids as a metabolic product. The mechanism by which acids are formed from sugar (glycolysis) is well understood (Fosdick, 1941). Many of the glycolytic enzymes contained by bacteria that are responsible for the process of glycolysis have been isolated and studied (Baldwin, 1948). It is beyond the scope of this article to elaborate the mechanism of glucose degradation in the mouth.

Many of the caries activity tests (Snyder test, lactobacilli test, Fosdick test) are essentially an index of the glycolytic powers of oral bacteria (Kesel, 1943). People who are caries-free generally possess oral flora with low glycolytic powers.

Evidence is strong to indicate that readily fermentable sugars are associated with production of dental caries. Man living in the "uncivilized" state had little dental caries unless he was exposed to diets containing concentrated sugars. The removal of read-

ily fermentable carbohydrate in caries active individuals has resulted in a marked reduction and even arrest in the caries progress (Becks, 1950; Jay, 1947).

During the last war, the marked reduction in caries activity of many countries directly paralleled the availability of refined sugars (Krohn and Pedersen, 1945; Sognnaes, 1948; Toverud, 1949). Biochemically it is inconceivable that sugar, consumed after the eruption of teeth, can influence caries activity locally by any other mechanism but to serve as substrate for glycolytic bacteria.

Histologically, the caries lesion contains evidence of acid action. The phenomena of cross striation, seen in enamel caries, is indicative of acid action.

Clinical evidence indicts acid as a factor in the caries process. Thick, leathery dentine, observed frequently in dentine caries is primarily decalcified organic matrix.

All of the caries preventive methods which have proved successful can be explained on the basis of (a) elimination of readily fermentable sugars from the diet (b) increasing resistance of tooth tissue to acid action (c) neutralization of acids (d) interference in the enzymatic action responsible for acid production.

The above evidence is rather impressive, and would seem to indicate that readily fermentable carbohydrates are an important factor in the aetiology of dental caries. However, there are circumstances that require reconciliation with the above statements. The observations which appear to be somewhat incompatible with the above statements are summarized below:

1. The action of acid on the teeth in vitro does not result in a typical carious lesion with the usual morphological characteristics of enamel caries. This criticism has been largely negated by the recent findings of Box (1950, discussed on p. 12) and

*Glycolysis is a term used to designate decomposition of glucose to lactic acid. Here it is used to denote general enzymatic breakdown of readily fermentable sugars to an organic acid.

- Turell (1950). Turell was able to produce caries *in vitro*, comparable to those seen *in vivo*, by incorporation of an osmotic pressure differential between the surface of the tooth and the pulp. Normally, the osmotic pressure of the saliva is 6.0 atmospheres, while that of the blood in the pulp of a tooth is 6.8 atmospheres. Thus, if the enamel and dentine serve as a semi-permeable membrane, there would be a constant flow of some ions or molecules from the blood to the saliva; on the other hand, water molecules would tend to travel in the opposite direction. The introduction of a solution with a high osmotic pressure, such as sugar (50 per cent) which has an osmotic pressure of about 60 atmospheres, would cause the sugar molecule to be drawn into the plaque or the tooth itself. Turell's experiment substantiates Fosdick's theory that the positive action of the osmotic pressure differential would explain the inverted cone and other morphological characteristics of *in vivo* caries.
2. People living on natural diets have far less caries, but they do have some lesions. This should be impossible if all dental caries were caused by concentrated refined sugars and carbohydrates. This anomaly may be attributed to the fact that many natural foods, particularly dried fruit, have a high sugar content. The sugar content in natural foods as raw fruit, though appreciable, is not as concentrated as in confectionery. It is generally felt, that for the initiation of a dental caries lesion, the concentration of the sugar is a very important feature of a cariogenic diet.
 3. About 2 per cent of the population who do not practise elimination of sugars from their diets are caries-free. It would be very important to determine what factors are responsible for immunity to dental caries.
 4. Many items in a "natural" diet may contain appreciable amounts of sugar, yet such a diet, presumably, is not cariogenic.
 5. Tooth decay cannot be produced routinely even in the presence of all those oral environmental factors which have been postulated in the acidogenic theory to be conducive to the initiation of the carious lesion. (Roseburg and Karshan, 1931, and Shaw, Elvehjem and Phillips, 1945.)
 6. There is strong evidence to indicate that, in experimental animals at least, the inherent resistance of a tooth or its salivary environment against dental caries may be experimentally predetermined. Sognnaes (1950); Volker (1951) and Shaw et al, (1945) showed that a high degree of susceptibility to dental caries can be produced in rats and monkeys by feeding purified diets during tooth development. The increased susceptibility need not be attributed to a specific detrimental effect of sugar on tooth development. McClure (1951) states "that the explanation of the effect of age at which the dietary change was initiated may be that newly erupted rats' teeth are particularly susceptible to a diet high in sugar".
 7. Not all substances that inhibit the formation of acid from sugars *in vitro* inhibit dental caries. Vitamin K and other quinones strongly inhibit acid production by oral bacteria (Fosdick et al, 1942), but are not effective in reducing caries in cotton rats (Shaw, 1949).
- Other anomalies are undoubtedly existent. While admitting that much of the contradicting evidence is vague and obscure, nevertheless, an explanation of these anomalies will permit a better clarification of the development of the caries lesion. The answer is probably to be found in the myriads of variables that exist, viz., salivary environment, pre-natal tooth development; systemic conditions, better knowledge of the structure of the tooth and more exact duplication of oral conditions in the *in vitro* studies.

EVIDENCE FOR THE PROTEOLYTIC THEORY

The surface coverings found on the tooth, in grooves and pits are organic in nature and are present in those areas in which caries commonly starts. Structures and faults in the enamel (lamellae, tufts) are filled with organic matter. They are resistant to acid and according to Gottlieb (1947) are protective against acid action in experiments *in vitro*. Pigmentation characteristic of the caries process has been suggested as an indication of proteolysis of organic matter (Gottlieb, 1947). These findings added to the fact that caries-like lesions have been described by Pincus (1937), Frisbie et al, (1944) which were presumingly initiated by proteolytic activity at a slightly alkaline pH, led these workers to conclude that caries is primarily a proteolytic process.

Gottlieb (1947) felt that in the enamel, acid decalcification is the spearhead of the caries attack and pigmentation follows, but in lamellae, which form an organic pathway to the dentine, pigmentation is in advance of the acid attack. He concludes that without such lamellae, caries of the enamel would be impossible. There is little proof for this statement, and the recent work of Wildbolz (1950) suggests that lamellae are less frequent and arranged in a less regular manner than claimed by Gottlieb. He states further that micro-organisms produce organic acids as well as proteolytic enzymes and that "caries has two components." Upon such data there seems to be little justification for his definition of the caries process: "Caries of the dentine as well as of the enamel is entirely a proteolytic action." Established facts such as the production of low pHs in dental plaques and the fact that organic coverings are permeable to hydrogen ions are not considered. Any preventative measures based on such a hypothesis, even though of therapeutic value, probably possess a different mechanism of action than that suggested. Recent evidence (Ast et al, 1950) indicates that Gottlieb's

impregnation method is ineffective as a caries preventive measure.

The organic component of enamel is a keratin-like protein. It is the most resistant protein, to proteolysis, found in nature. The number of possible bacteria that can attack this protein is limited. A detailed study of the bacterial enzymes found in the oral cavity capable of disintegrating the organic moiety of enamel is lacking.

It is not known whether proteolysis can cause disintegration of tooth substance without previous acid action. Burnett (1949), isolated over 80 types of oral bacteria that showed proteolytic activity on ordinary media. However, none were able to attack dentine or enamel before previous decalcification.

Box and Hugill (1950) were able to reproduce certain morphological signs associated with the caries picture by *in vitro* experiments. Acid action alone produced an erosion-like lesion that does not represent a typical caries lesion. Proteolysis alone did not produce a caries lesion. By a combination of lactic acid (pH 4) and pepsin, a proteolytic enzyme, the morphological signs characteristic of *in vivo* caries, viz., cross striations and pigmentation were reproduced. Available evidence suggests that proteolysis accompanies acid decalcification, but that it is essentially a secondary process.

In dentine proteolysis may be more extensive. Engel (1949) described an enzymatic mechanism for softening of dentine in caries. The enzymes collagenase and hyaluronidase were able to depolymerize dentine. It is highly significant that such depolymerization could be demonstrated only after subjecting dentine to acid action. The same author has also shown that carious dentine lesions possess hyaluronidase and collagenase-like activities.

PINCUS' THEORY

The sulphatase theory of Pincus is subject to many criticisms. No evidence is available to indicate that SO₄ found in carious lesions is derived pri-

marily from the destroyed tooth tissue, nor is it possible to state that SO_4 is present in the form of CaSO_4 . Pincus (1950) himself states, "It is not clear whether enough SO_4 is present to account for all the manifestations of caries, partly since it is not clear what degree of decalcification is needed to change sound enamel and dentine into carious enamel and dentine." It is highly hypothetical that a sufficient amount of sulphuric acid can be liberated from the organic component of enamel to cause decalcification of the enamel. Anderson (1949) gives the figure for enamel protein as 0.3—1 per cent.

CONCLUSIONS

1. The development of a carious lesion is a complex process involving a large number of variables. Many of the variables have not been elucidated but the basic aetiological factors are no longer obscure.
2. The four requisites for dental caries are: bacteria, suitable substrate, dental plaque, and the tooth with its environment. Of these, the two exciting factors appear to be only bacteria and a suitable substrate.
3. Available evidence indicates that the primary mechanism of dental caries is decalcification of the inorganic portion of the tooth. The acid is a metabolite of bacterial-enzymatic action upon concentrated solutions of readily fermentable carbohydrates. Bacterial action is localized to the surface of the tooth, in areas of predilection, by organic plaques.
4. A secondary process, proteolysis, accompanies acid decalcification and results in the disintegration of the organic substance of the tooth. It is not known whether acid decalcification and proteolysis are concomitant lesions.
5. There are many factors which influence or control this mechanism. There is strong evidence that, under suitable circumstances during formation, teeth can be developed which

offer great resistance to decay even in the presence of a local environment which has caries-producing properties. The inherent resistance of a tooth, or its salivary environment is important in controlling the extent and speed of the carious lesion.

6. A more complete picture of the process of dental caries will be possible when the myriads of variables that influence the caries mechanism have been scientifically unravelled. These factors include the influence of the salivary environment, nutrition, pre-natal tooth development; systemic conditions; explanation of the factors responsible for immunity to dental caries and a better knowledge of the structure of the tooth.

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Part 2 will appear in the next issue of the Journal

ANNOUNCEMENT

UNIVERSITY OF TORONTO, FACULTY OF DENTISTRY CONTINUATION COURSES FOR GRADUATES IN DENTISTRY

The Faculty of Dentistry, University of Toronto, announces a series of short intensive courses for dentists during the 1951-52 session. These courses will be arranged and conducted by the staff of the Faculty of Dentistry with the co-operation and financial support of the W. K. Kellogg Foundation of Battle Creek, Michigan. When deemed advisable, outstanding visitors will be included among the lecturers and clinicians.

These courses will be designed to provide the general practitioner with an opportunity to keep abreast of standard methods and procedures of practice, and to become informed respecting the most recent developments within the profession. Instruction will be given through lectures, seminars, and clinical demonstrations. The fees for the courses will be \$75.00 for a five-day course, \$50.00 for a three-day course, and there will be a registration fee of \$10.00 for the Dental Public Health Conference.

ANATOMY AS APPLIED TO DENTISTRY

September 12, 13, 14, 1951. 9.00 a.m.—5.00 p.m. Enrolment limit 6

PERIODONTICS

October 29—November 2, 1951. 9.00 a.m.—5.00 p.m. Enrolment limit 14.

ORTHODONTICS (for the general practitioner)

November 5-9, 1951. 9.00 a.m.—5.00 p.m. Enrolment limit 10.

DENTAL ORAL SURGERY AND ANAESTHESIA

November 19-23, 1951. 9.00 a.m.—5.00 p.m. Enrolment limit 12.

DENTAL PUBLIC HEALTH CONFERENCE

November 20, 21, 1951. 9.00 a.m.—5.00 p.m. Enrolment limit 15.

CEPHALOMETRIC TECHNIQUES (for specialists only)

January 28, 29, 30, 1952. 9.00 a.m.—5.00 p.m. Enrolment limit 10.

OPERATIVE DENTISTRY

February 18-22, 1952. 9.00 a.m.—5.00 p.m. Enrolment limit 10.

DENTAL RADIOLOGY

February 25—March 1, 1952. 9.00 a.m.—5.00 p.m. Enrolment limit 12.

DENTAL CARIES: AETIOLOGY AND PREVENTION

March 6, 7, 8, 1952. 9.00 a.m.—5.00 p.m. Enrolment limit 6.

ENDODONTICS

March 10-14, 1952. 9.00 a.m.—5.00 p.m. Enrolment limit 8.

ORTHODONTICS (for the general practitioner)

March 31—April 4, 1952. 9.00 a.m.—5.00 p.m. Enrolment limit 10.

Other courses will be arranged as the demand indicates. Those interested are asked to inquire respecting enrolment. Please address inquiries to: The Dean, Faculty of Dentistry, University of Toronto, 230 College Street, Toronto 2-B, Ontario.

THE ANNUAL DINNER MEETING OF THE ACADEMY OF DENTISTRY, TORONTO, will be held at the Royal York Hotel on October 16, 6:30 P.M. Mohammed Ali, High Commissioner for Pakistan will be guest speaker.

The Forum

EXTRACTION OF TEETH IN THE PRESENCE OF ACUTE INFECTIONS

by HAROLD W. KROGH, D.D.S., Washington, D.C.

Summary of paper in *Jour. of Oral Surgery*, April, 1951

1. A series of 3,127 extractions has been presented, in which operation was performed immediately, without regard to infections present or concurrent disease. All complications which followed and postoperative treatments given have been described in full for the 2,626 cases followed.

2. Of the 1,173 cases of aching teeth extracted, only 12 manifested complications or required further treatment. Of 854 cases of abscessed teeth, 30 showed complications or required further treatment. Of 599 with pericoronitis, 36 had complications or further treatment. In the combined series there was a total of 78 complications, less than 3 per cent, most of which were minor.

3. A general anaesthetic was employed in 90 per cent of the total 3,127 cases. Sulphanilamide tablets were inserted in the alveoli of all lower molars, bicuspids and cuspids immediately fol-

lowing extraction. Antibiotics were used in 2 per cent of the cases followed and in 0.6 per cent of those who failed to return.

4. Two leukemic patients, one in the terminal stage, were each successfully operated on twice with no untoward reaction except that healing was slower than in other patients.

5. Neither osteomyelitis nor septicaemia developed in a single instance.

6. Extraoral incision and drainage was necessary in only 3 instances following removal of acutely abscessed teeth.

7. Only one patient in the pericoronitis group required extraoral incision and drainage and only one patient developed a severe cellulitis.

8. There were no deaths in the series.

9. Immediate extraction is the treatment of choice for cases of acute abscesses or pericoronitis.

SIGNIFICANT CONSIDERATIONS IN THE PROGNOSIS OF PERIODONTAL DISEASE

by CLIFTON O. DUMMETT, D.D.S., Tuskegee, Alabama

Condensed from *Jour. of Periodontology*, April, 1951

When the prognosis of periodontal disease is declared hopeless, it is inferred that there is no possibility of eliminating the diseased condition and the periodontal tissues cannot be restored to health. As a consequence, the teeth will not be retained for any acceptable period of time. Their life expectancy is zero, and immediate extraction is indicated.

The objective factors comprising a hopeless prognosis are divided into clinical and roentgenographic.

Clinically, the following factors are of importance:

- (a) Excessive mobility of teeth which can be depressed in the sockets.
- (b) Few teeth remaining in the dental arch.
- (c) Remaining teeth so distributed that excessive stresses will be imposed on certain teeth if replacements are constructed.
- (d) Irremediable physiologic inadequacy of the periodontium.

- (e) Unlikelihood of removing known aetiologic factors.
- (f) Unknown aetiologic factors in the presence of rampant destructive processes.
- (g) Periodontal pockets in excess of 7 mm. with excessive haemorrhage and extensive suppuration.
- (h) Haphazard wandering of teeth, as in periodontosis.
- (i) Rapid increase in width of the interdental spaces.
- (j) Loose, hypertrophied, gingival tissues around elongated, extruded, malaligned teeth.
- (k) In those cases in which there is the possibility of focal infection, the prognosis of periodontally involved teeth is distinctly unfavourable. In cases of infectious arthritis, tuberculosis and syphilis, the retention of teeth may be injurious in that they serve as foci of infection. In these cases the teeth might better be removed. As a general resistive factor, physical health may be a decisive distinction between success and failure. Generally speaking, the shortest and least physically harassing treatment should be the rule in cases where patients are in poor physical health. Most certainly the patient's systemic

health is the important issue and merits a greater consideration than the retention or loss of teeth.

- (i) The shortest and least harassing treatment should also be the rule in cases where patients are in poor physical health, and most especially in cases where patients are in poor mental health.

Roentgenographically, the following factors are of importance:

- (a) Extension of periodontal pocket to the apex of the tooth root.
- (b) Involvement of bifurcations and trifurcations of the posterior teeth.
- (c) Less than 10 per cent of supporting bone remaining around the roots.
- (d) Large cancellae in the supporting bone.
- (e) A darkening of the bone margin with deep penetration into the alveolus.
- (f) Periapical involvement of teeth with periodontal disease.
- (g) Close approximation of tooth roots with insufficient septal bone.
- (h) Abnormal increase in width of the periodontal membrane.
- (i) Areas of tooth resorption.
- (j) Excessive vertical bone resorption.

POST-OPERATIVE CARE IN THE EXTRACTION OF THE MANDIBULAR THIRD MOLAR

by J. DELIBEROS, M.D., Professor at the Dental School of Paris

From International Dental Journal

This subject is the one upon which opinions differ, and four problems continually arise, namely, should the socket be packed, should the wound be stitched, should the socket be filled with antibiotics, or should no action be taken?

Statistics which would prove the superiority of any one method are difficult to establish, and it is common sense alone which must decide the line of action.

Packing may be necessary to control haemorrhage, but the abundant microbic flora of the mouth must limit the period during which a pack may be left in place.

On the other hand, if, as often happens, no clot forms to fill the socket, the insertion of a lightly compressed gauze pad soaked in iodoform may be allowed to prevent the accumulation of food particles.

If the cavity is infected packing is always contra-indicated and it is much better to leave the wound open.

Stitching is permissible, if not to be recommended, in all cases in which the operation has been performed in a non-infected field. It seems that unpleasant sequelae are more often absent when the operation has been done in this way. In case of infection, stitching should be avoided.

Finally, the use of antibiotics, sulphonamide powder, or compounds with a penicillin base, is advisable when the

region is infected. In the absence of infection it does not seem to matter whether they are used or not.

DIETARY CONTROL IN PERIODONTAL DISEASE

by DOROTHEA F. RADUSCH, D.D.S., B.A., M.S., Minneapolis, Minn.

Condensed from F. Review of Chicago D. Soc., Feb. 1, 1951

One of the least of our problems in the United States is a deficiency of calories. Too many calories, but not enough essential nutrients, occurs too often. The effect of deficiencies appears to be accentuated when caloric intakes are high. There is some correlation between the increased incidence of degenerative diseases and high caloric intake. We must not weaken tissue-resistance by over-feeding of calories, but we must be sure to have enough protein, minerals and vitamins. So many adults have the misconception that they do not require the same quality of food which younger people need. On the contrary, their needs are either the same or even greater, because of lowered utilization.

Protein is made up of amino acids, some of which the body cannot form. Fortunately, proteins from animal sources contain combinations of these essential amino acids. If the dietary pattern is followed, sufficient high-quality protein will be furnished by the daily use of a four-ounce serving of meat, one and one-half pints of milk and one egg. Higher protein levels have not been demonstrated to be nutritionally beneficial.

Calcium requirements are now known to be relatively large. The amount needed will not be obtained if left to chance. For the adult, the allowance is one gram a day, and even this will not be enough for all adults; one in every one hundred persons will require more. In terms of food, one pint of milk will not supply sufficient calcium. Instead, there must be an increase of one-half pint, so that three eight-ounce glasses of milk are consumed. Even so, part of the one gram allowance must be furnished by other foods. Skim milk is the best for adults.

If protein and calcium needs are met through foods, the phosphorus allowance will be covered, because the same foods are also the best sources of phosphorus.

The iron allowance apparently is not a problem for men, but can be a significant one for women. Careful choice of iron-rich foods is required. The quantity of fruits and vegetables which furnish enough carotene to be transformed into vitamin A will likewise improve the iron intake. Even with the daily quantities suggested for enriched, fortified, or restored cereal products and for leafy, green, and yellow vegetables, it is difficult to supply iron needs without often including liver.

Vitamins are now believed to be necessary in quantities greater than the bare minimum to prevent onset of signs of deficiency. The allowances have a greater liberality to support well-being. That of 5000 International Units of vitamin A will be supplied mainly as carotene in the richly yellow or green foodstuffs, with lesser amounts of vitamin A itself in milk, butter, and eggs. The dairy products cannot be depended upon for even half of the allowance, which is one of the reasons for advocating the use of the colourful fruits and vegetables, and of liver.

The thiamine allowance is based on the total calories. It is set as 0.5 mg. per 1000 calories, but should never fall below 1.0 mg. daily.

The riboflavin allowance is 1.5 mg. for women and 1.8 mg. for men. Because of its role in some forms of cheilitis and oral lesions, this vitamin is of especial interest to dentists. Milk and liver are the best sources. Without at least one pint of milk it is

difficult to get enough riboflavin each day.

The niacin (nicotinic acid) allowance is 12-18 mg. for men, and 10-15 mg. for women. The actual requirement can be established only in relation to the protein intake, more specifically that of the amino acid tryptophane. Milk is a good source of tryptophane and favours the intestinal synthesis of niacin.

Vitamin C or ascorbic acid allowance is 70-75 mg. This is the easiest essential to satisfy, because there are foods acceptable to the majority which are so high in content that an average serving will furnish 50-60 milligrams. The citrus fruits and tomato are the most dependable for this purpose in the United States. The balance of the day's quota comes primarily from the serving of potato.

Vitamin D is not a dietary essential in quite the same way as the other vitamins, because the body may make its own supply if subjected to sunlight or ultraviolet light.

There is another value in using the food pattern which has been outlined. It is so planned that there is either a balance between the acid and base

qualities of the food or a tendency to potential base. The meat, eggs and cereal have acid end-products primarily, while milk, fruit, and vegetables are alkaline. Even the starchy potato produces basic elements after digestion, and that is one of the many reasons why it is unwise to omit potato in favour of bread. Acid-flavoured foods often have base end-products. This is true of citrus fruits, tomatoes and plums.

Nutritionists have long recommended that the food intake should be divided somewhat evenly into three meals. This equalizes the load of digestion and makes better provision for bodily needs throughout the day.

Supplementary vitamins are probably always good insurance against deficiencies for persons who have little choice over their food selection, or who are eating food which has been kept on steam tables for long periods.

The dentist cannot give patients complete instruction in diet and nutrition, but it is within his province to outline a pattern of diet specifically and to explain the necessity for co-operation.

TOOTH EXTRACTION AS AN ORTHODONTIC MEASURE

by HAROLD CHAPMAN, F.D.S.R.C.S., London

Lecturer in Orthodontics in the London Hospital Dental School

Summary of paper in International D. Jour., Dec. 1950

Tooth extraction as an orthodontic measure has been a controversial subject since Angle taught, fifty years ago, that it should not be done.

The reasons are discussed for the previous belief that in many cases all teeth could be kept and normal occlusion obtained.

Extraction or non-extraction are not alternative treatments: the choice depends on whether the basal bones are large enough to contain all the teeth in line.

Small basal bones cannot be prevented. Their aetiology is unknown and their size is determined before birth. They cannot be enlarged more

than they will enlarge naturally. The size of the dental arches depends on the size of the basal bones.

The treatment of small arches supported on small basal bones includes extraction.

The treatment of anteroposterior errors of arch relation does not necessarily require extraction because the basal bones may be large enough.

The interdependence of the dental arches is stressed. They must be considered together. The size of the lower dental arch controls the size of the upper dental arch. Loss of a lower tooth is followed by a reduction in size of the lower dental arch.

A NEW SET OF VALUES

by KATHRYN SWEAT, Atlanta, Georgia

Reprinted from "Dental Assistant"

In the June 8th issue of The Atlanta Constitution, Mr. Ralph McGill wrote an inspiring article on the famous Jack Dempsey. In it Mr. Dempsey said: "I wanted something out of life, I wanted what I saw on the other side of the tracks, good clothes, nice hotels, the company of polished men and women. I was hungry for what the title would buy. So I won the title and I had the clothes, nice hotels, the company of polished men and women; and then I had to learn something else. I spent a lot of bitter hours before I realized that I hadn't known how to evaluate what I wanted out of life. So, I had to learn, I had to learn that polished people were not always nice ones to know; that a hotel suite could be as empty as a dollar room in a cheap rooming house; and that clothes and expensive meals were not enough. It took a long time, but I learned it."

What Jack Dempsey meant was that out of each fruition of success comes another struggle.

What has this to do with you and me as a dental assistant—have we evaluated ourselves recently? Have we ever?

How many of us have ever considered just how much "our own" dental office revolves around us? What category would we fall in, would we list ourself as just someone to clean the office and answer the telephone or would we list ourselves as people with professional capabilities?

Let us take stock for a moment. Let us analyze our potentialities.

First of all a dental office is a team: Dentist, Assistant, Hygienist and Technician. All four must work and plan together. I'm sure all of you have seen a four legged stool. Then all of you can certainly understand what would happen if one of the legs was missing.

Let us forget the Dentist, Hygienist and Technician. Let us assume they

are doing their part on the team and concentrate on what we as assistants must do to keep the team producing.

Success depends upon faith in our capabilities, willingness to work and to assume responsibility. Not only are these things important, but we must have infectious enthusiasm for potential growth.

One doesn't have to be in a dental office for five years to become efficient. It doesn't take one long to become familiar with the instruments, books, the patients or the dentist's operating technique. These are all basic facts and true it is a must that they be known.

After we know the office from A-Z what are we going to do? Are we going to be content to have a "job"? Could you be content to have a set routine day after day? Speaking for myself, I could not, and I'm sure you couldn't either or you would not be attending this state convention.

The answer is self improvement. This should not be limited to formal training alone. We all have some interest or even some hobby, if nourished, that will enrich our own life and give greater self-confidence. Appreciation of personal worth by others will be the end result. We have opportunities to enlarge our horizons every day. By so doing we may live richer and more useful lives.

Dental literature that comes regularly to the office should never be neglected. It should be read carefully; and I know there isn't a girl present whose doctor wouldn't take the time to explain an article not completely understood.

I can tell by your expressions that already you are saying "She must be crazy; when do I have time to read? From the time I hit the door until I leave I don't have a minute to call my own."

It never fails when you are busy

usually on the phone, why I don't know, but the doctor always thinks this to be the most opportune time to try and tell a dozen things to do. Then when you are through with the phone, naturally you have to ask him again. You turn to him and say, "I'm sorry but I was on the phone when you asked me to do something—do you mind repeating it?" That's when they give you the how-dumb-can-you-be look.

Seriously speaking, find the time. It will be helpful and also will let your doctor know that you are interested in your work. TRY it.

Never let the opportunity to attain knowledge slip by.

America is becoming more dental conscious daily and there it is a must that we do the same. The schools require a dental certificate for each child at the beginning of the year, plus dental mobile units that go to some of the schools and give the children free dental care. We have here in Georgia, Dental Health Day, plus dental literature free to mothers to encourage them to insure their children's dental health. This material is published by the state.

There are schools especially for dental assisting and dental nursing in many states. To mention a few, Tennessee, West Virginia, Michigan and Ohio. Refresher courses are being offered in other cities.

Study Courses in Dental Assisting have been given here in Atlanta. I know that I speak for every girl who attended—it was time well spent.

By all means support your local so-

ciety. You are needed and wanted. Not only will you gain knowledge but you will develop closer companionship and cooperation will be accomplished.

If our standards are to be raised, we must prove that we not only want it but are willing to pay the price in hard work to attain it. Never before has the spirit of cooperation been more apparent than now between Dentist, Assistant, Hygienist and Technician.

I can promise that if you will adapt yourself more closely you will reap many rewards. Not only will you be a more informed "professional" member of your team, but you will also be of greater service to the patient, to your doctor and I think your pay cheque will increase more rapidly, to say nothing of the self-satisfaction that you will receive. Hadn't you rather hear your dentist say, "she is a part of my office" and not "someone who works for me"?

In closing I would like to quote Dr. Don Clawson, past president of Meharry Dental School in Nashville, Tennessee: "If we would lead our patients into the glowing healthy tomorrow and into the prodigious realm of usefulness foreshadowed by an atomic age, let us remember that the Bible contains two proverbs that we cannot afford to forget. The first is, 'Man does not live by bread alone,' and the second is, 'Where there is no vision the people perish.' You have the vision. Be alert, be vigilant, keep your chin up and surely success will crown the efforts of your life and organization."

FEES FOR CHILDREN'S DENTISTRY

by ALFRED E. SEYLER, D.D.S., Detroit, Michigan

Condensed from F. Rev. of Chicago D. Soc.

Let's talk a moment about specific fees for specific operations in dentistry for children, and compare them with similar operations in an adult, on the basis of time involved, since materials are pretty much the same, and are only incidental to the procedures. The fees and the time are relative, subject to

adjustment by the individual dentist, to conditions within his own practice, but it is evident that when all factors are considered, the income per hour spent doing dentistry for children can be at least equal to that spent doing dentistry for an adult.

I suppose that some of you are say-

ing to yourselves that it's easy enough for me to set down figures — but how can *you* convince parents they need good dentistry for their children—and at the fee *you* think it's worth. There are several essentials, I believe, necessary to make dentistry for children pay its own way in your office.

1. *Believe in it yourself.* Recognize the need of good teeth for a completely healthy child.

2. *Be able to do good dentistry for children.* If this means postgraduate courses, take the time out of your office or recreation to enroll in them. Bring yourself up-to-date!

3. *Show the parent the need for your services.* Take a few minutes at the first visit to educate the parent.

4. *Examine the mouth thoroughly.* This means usually that you will need radiographs, and if so, insist upon them. Don't set up a work schedule and fee, and then neglect to do work which shows up as the case is carried on.

5. *Quote a fair fee* — for good dentistry, not for poor or hurried work.

6. *Quote the fee for the entire work*

at the first or second visit. Eliminate this question from future appointments. The parent may say the fee is high and decide not to have you do the work, but this matter should be settled before the work is begun—not during the course or after it is completed.

7. *Check the mouth for evident malocclusion and missing teeth.* Refer to the orthodontist early enough, for observation. Don't wait for a malocclusion to become noticeable to the parent before referring the child.

8. *Make your appointments long enough.* A hurrying dentist is usually an impatient one — impatient with the slow reaction time of children — who are quick to sense that, and sometimes use stalling to further irritate the operator! I like appointments of 45 minutes to one hour, seldom less than that.

9. *Finish the work well.* You don't have to carve the occlusal surface with accessory grooves and fancy anatomy, but you should adjust the occlusion, stone the margins and polish the restorations so they'll be longer lasting and are a credit to you in appearance.

IMPACTED TEETH

by EARLE H. THOMAS, M.D., D.D.S., LL.B., Chicago, Illinois

Condensed from *F. Review of Chic. D. Soc.*

1. (a) *Should all impacted teeth be removed?*

All impacted teeth should be removed if they cannot be moved into their normal position. This is a principle, not an invariable rule. In some rare instances, the cure would be worse than the disease. Impacted cuspids in children can practically always be uncovered and moved into normal position.

Furthermore, those impactions that are to be moved should be operated on as early in life as it is known that they are impacted.

(b) *What detrimental and systemic effects can ensue if they are left in situ?*

Local effects. Their pressure can cause the shifting of other teeth from

normal position, even teeth far removed from the impaction. The result of this shifting can be change in arch form, detrimental appearance, traumatic occlusion and eventual periodontal disease with its attendant sequelae, local and systemic. Their pressure can cause pain and local neuralgias. Absorption of the roots of adjoining teeth can develop, and occasionally fusion to roots of adjoining teeth. Cysts can develop from the Nasmyth's membrane which envelops their crowns.

If the cusp of an impacted tooth contacts saliva, from that moment there is chronic infection of the tissues surrounding its crown, and the resultant systemic effects of this infection can cause disease and degeneration in every

tissue of the body. Also, the chronic infection may develop at any time into a serious acute infection of the surrounding tissues.

Systemic effects. As mentioned above, when an impacted tooth contacts saliva the resulting chronic infection can cause toxic effects in every organ and tissue of the body. Also, because all nerve centres in the brain are interconnected, there can be reflex neuralgias and other nerve effects causing disturbances in function anywhere in the body, and any disturbance in function may eventually result in organic change.

(c) *Is removal of an impacted tooth an "operation"?*

The removal of an impacted tooth is not "yanking or pulling a tooth." It is an operation in every sense of the term and, unless a high degree of care and skill and exceptional surgical judgment are used in executing every detail of the operation, serious and irreparable damage may ensue.

For instance, in the removal of a badly impacted lower third molar, the throat and cheek must be opened up and, sometimes, an inch or more of bone removed under the throat and cheek in the immediate region of the lingual nerve which supplies sensation to the tongue, the long buccal nerve supplying sensation to the inner cheek and gum tissues, and the inferior dental nerve supplying sensation to the teeth, chin and lower lip. Such an operation

is classed under bone surgery and, being performed in a nonsterile field, requires exceptional surgical skill, both during the operative procedures and during the postoperative care, if destructive sequelae are to be avoided.

2. (a) *In the removal of an impacted tooth, what complications must be considered and avoided?*

Complications may be injury to the various nerve branches, to the throat tissues, and to the adjoining teeth; in addition trismus, postoperative infection, and extensive necrosis may develop. Fracture of the jaw is not an infrequent complication.

(b) *How can you determine if postoperative swelling is infection?*

All postoperative swelling should be starting to recede by the third postoperative day. If the swelling persists or increases, this reaction is usually a sign of infection deep in the tissues, and immediate drainage should be instituted and continued until all infection is overcome.

(c) *What are the general principles underlying postoperative care?*

Sedatives are given for any postoperative pain. Hot saline solution is held in the mouth around the operative region. Hot face packs may be used after the first 24 hours. Cold face packs may be used the first 24 hours. If infection develops, iodoform gauze drains are inserted in the region affected and adequate drainage maintained until all infection has been overcome.

AN INVESTIGATION INTO THE REMOVAL OF THE FOUR FIRST PERMANENT MOLARS

by J. HUTCHISON GLEN, L.D.S., Eng.

Summary of paper in Br. D. Jour., July 21, 1950

The findings of the result of an investigation into the removal of the four six-year molars bear out the statement that here is a reduction in the incidence of decay and that the general parodontal condition is improved. The loss of occlusal contact, and the variable and unpredictable movement of the teeth without control by an appliance, make it impossible to recommend removal of

these teeth as a routine in an attempt to produce thereby the perfect dentition. A further factor against such a course of treatment, without the strictest safeguards and control, such as those advised by Wilkinson in his original article, is the frequency with which one or more teeth may be missing from the dentition. During the study of the bite-wing films taken for

the assessment of occlusal contact, the prevalence of cases in which one or more of the second premolars were absent was noticed. In consequence an examination of nearly 400 films, taken for orthodontic purposes, was made. Of these, 12.4 per cent showed that one or more of the second premolars were absent. When these figures were reassessed in relation to the number of children of the same age-groups in the district, the percentage figure became 5.4. If this percentage of the child population is already one or more teeth short of the full complement, it would appear to be unwise to advise the re-

moval of the four first permanent molars as a routine, particularly as the third molars and upper lateral incisors are also frequently absent. The removal of these teeth is too often essential in the course of routine clinic treatment, and more harm is caused by the failure to remove the opposing tooth, than by extracting all four, but it is advisable to consider their removal, when this is essential, as part of an over-all orthodontic plan, and to guide the remaining teeth into position with an appliance, rather than to consider their extraction to be a complete treatment in itself.

REMOVAL OF A CROWDED LOWER BICUSPID

Q.—Lower bicuspid become a great problem to me when they are crowded into a lingual position where there is not enough room between the adjacent teeth to apply a forceps. How do you meet this problem?

A.—A popular and simple method en-

tails reflection of a free gingival margin flap on the buccal, drilling an opening into the cervix of the bicuspid, and, with a small straight elevator from the buccal aspect, tapping the tooth lingually and upward out of the socket.—*Jour. of Oral Surg.*

SWELLING AND EXTRACTION

Q.—Does a swollen jaw contraindicate removal of a tooth abscessed through caries?

A.—No. When odontogenic periapical infection is present and there is regional swelling, removal of the tooth,

where extraction is not complex, provides excellent drainage and eliminates the source of infection. A combination of drainage and generous use of appropriate antibiotics will abort many infections and prevent suffering.—*Jour. of Oral Surg.*

MALOCCLUSIONS

by LOUIS BRAUN, D.D.S., Detroit, Michigan

Conclusions of paper in F. Rev. of Chic. D. Soc.

Let us remember that malocclusions cannot be understood and corrected by looking at the teeth and the application of mechanical devices alone. Such conditions may be, and often are, the results of arrests or perversions in skeletal development impaired function of the muscles, or systemic disturbances brought about by poor health. Treatment planning should be based upon a thorough analysis of all obtainable facts in the case. Finally, it is not the

purpose of orthodontics to make all dentures conform to a mathematical standard of proportions, or to produce a set and limited design of relation for each individual tooth in the dental arch. Rather, the object is to help nature in the development of the structure of the jaws, so that the teeth and the surrounding structures, will be a harmonious unit best suited to the physiologic requirements of the body as a whole.

SPONGE BIOPSY IN THE DIAGNOSIS OF CANCER OF THE MOUTH

by SIDNEY A. GLADSTONE, M.D., New York

Summary of paper in Jour. of Oral Surgery., April 1951

Sponge biopsy depends on the procurement of tissue particles from accessible ulcerative lesions by means of a suitable sponge firmly rubbed in contact with the diseased tissue. Microscopic examination of paraffin sections of sponge and absorbed material demonstrates the presence or absence of cancer in each case. Among 38 patients with ulcerative lesions of the oral cavity examined by sponge biopsy, cancer was demonstrated in 10 cases and confirmed by surgical biopsy. To aid in the selection of cases requiring microscopic examination, a brief outline is presented of the mode of

origin, the clinical characteristics of early oral cancer, the sites of predilection, and the important known aetiological factors. When the early suspicious lesion has been detected, the microscopic diagnosis becomes a life-saving contribution within the reach of the practitioner who recognizes its necessity and insists upon its performance. Because of its simplicity and its effectiveness sponge biopsy lends itself to routine use in office practice or the microscopic examination of small ulcers of the oral cavity and the early diagnosis of cancer.

TREATMENT OF NEAR-EXPOSED AND EXPOSED PULPS IN THE PRIMARY AND PERMANENT TEETH OF CHILDREN

by RALPH L. IRELAND, D.D.S., M.S. Lincoln, Neb.

Summary of paper in N-W Dentistry, July 1950

1. Isolate the tooth to be operated on with a rubber dam.

2. Paint the surface of the tooth and the rubber dam adjacent to the tooth with tincture of iodine. All instruments used should be sterilized by boiling. Gauze packs and cotton pellets are sterilized by placing them in an autoclave for forty-five minutes at 20 pounds pressure or in a dry heat oven for one hour at 350 degrees.

3. Remove enough of the enamel and dentine over the pulp chamber to allow for easy access to the chamber. A No. 557 or a No. 558 fissure bur may be used for this purpose. Sterile distilled

water may be used to wash out the debris.

4. The coronal portion of the pulp is amputated at the level of the floor of the pulp chamber with a No. 6 round bur. Haemorrhage is controlled by pressing a cotton pellet saturated with adrenalin (1:500) or neosynephrine (1 per cent) against the pulp stumps.

5. The floor of the pulp chamber and the amputated pulp stumps are covered with a paste of calcium hydroxide and sterile distilled water. A cement base and silver amalgam filling are placed immediately.

EVALUATION OF SUBMAXILLARY SWELLING*From Jour. of Oral Survey Jan. 1951*

Q.—How do you evaluate submaxillary swelling just below the angle of the mandible?—D.D.S., Minneapolis.

A.—Such a submaxillary swelling belongs to one of three categories: infection, neoplasm, or cyst. Involvement of the lymph nodes of this region may arise from infectious inflam-

mation or a neoplasm, either as a primary site in the node or as a metastatic barrier to pathosis in tributary regions. Differential diagnosis must be based on a careful history, examination and laboratory studies often including biopsy and complete blood studies.



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Editorial

1950 SURVEY OF THE DENTAL PROFESSION IN THE U.S.A.

From time to time certain questions have arisen in connection with the practice of Dentistry which have been difficult, or even impossible, to answer because authoritative answers have not been available, particularly questions with regard to the planning of community or state health programs, or questions dealing with compulsory health insurance, as well as innumerable other problems.

To meet this need the Bureau of Economic Research and Statistics of the American Dental Association sent questionnaires to more than 20,000 dentists early in April 1950, covering all states of the Union. More than 4000 returned the questionnaires, or over 20 per cent of the original sample.

From a study of these questionnaires it was found that almost half of the survey participants practised in cities of more than 100,000 population and 28.2 per cent practised in cities of over 500,000 population. The survey indicates that 91.8 per cent of all dentists held the D.D.S. degree, the remainder holding the D.M.D. degree. More than one-fifth had earned some type of bachelor's degree. About 96 per cent conducted an individual practice, while 2.4 per cent were in partnership and 1.0 per cent were associated in group practice. 7.8 per cent classified themselves as specialists. Women showed a marked tendency to become orthodontists or paedodontists. Over nine-tenths of all dentists reported having x-ray equipment in their offices.

Dentists were asked what per cent of their 1948 gross charges remained uncollected. Half of the dentists reported uncollected charges exceeding

2.3 per cent. Approximately four-fifths reported they sometimes arranged with the patient before beginning his dental work for payment of fees by the instalment plan. The remainder operated, or intended to operate, on a cash basis. About one-half used the services of a collection agency and about one-fourth subscribed to a credit-reporting agency.

Almost two-thirds employed at least one full-time dental assistant, technician or hygienist. Only 1.6 per cent employed hygienists or technicians but no dental assistant. Full-time dentists were employed by one of every 50 respondents. Assuming that there are 76,000 practising dentists in the United States, the total number of full-time employees of dentists is approximately as follows: dentists 1900; hygienists 3600; technicians 3300; and assistants 55,200. The mean monthly salary for dentists employed by other dentists was \$513. Dental assistants were paid a mean salary of \$149; technicians \$264 and hygienists \$236. Independent dentists had a mean commercial laboratory bill of \$1,680 in 1949. The Dental Laboratories Institute of America recently estimated the gross income of ethical dental laboratories in 1949 at \$125,000,000.

Dentists in general work long hours. The mean for all dentists was 42.2 hours. Almost one-fifth reported 50 hours or more in the office. Nearly 8 per cent worked less than 30 hours during the week, and if these were deleted the mean would be 44.2 hours. Excluding the 23.4 per cent who spent no time in the laboratory, mean laboratory time for the remainder was 50 hours or 11.8 per cent of total time.

The mean number of patients during the week for all respondents was 48.7 and the mean number of sittings 56. The number of sittings per hour was 1.33 and the number of sittings per chairside hour 1.70. In other words, the average sitting required 45 minutes of office time. Those dentists employing one auxiliary helper averaged 37 per cent more patients than those without employees, while dentists employing two auxiliaries averaged 69 per cent more patients. The survey indicates that as the number of chairs exceeds three and as the number of auxiliary personnel exceeds two, the number of patients tends to decline, the explanation being such dentists have more patients in the higher income brackets. Over half of the members of the Association used more than one dental chair. Dentists between 30 and 49 years of age averaged almost twice as many patients as those 70 and over. Dentists located in the very small and very large places had the fewer patients.

Two weeks was easily the most popular length of vacation. About one out of every 11 dentists did not take a vacation in 1949 and an equal number spent one week on vacation. About one out of six had three weeks vacation and the same number had four weeks.

Dentists in partnership reported a mean of 1,145 patients during the year, more than 200 above the mean for all dentists. In general it may be said that people older than 44 and younger than 7 are below average in percentage seeing the dentist. Computation indicates that during the test week 3,700,000

persons saw the dentist. The average patient had 3.5 roentgenograms taken during the week of April 16-22, 1950 and the average patient had 1.87 teeth extracted.

Based on the survey findings, it is estimated that approximately the following number of dental services were provided to the people of the United States during the week of April 16-22, 1950:— examinations 640,000; roentgenograms 1,600,000; prophylaxes 610,000; teeth extracted 1,040,000; fillings and inlays 2,870,000; single crowns 50,000; fixed bridges 40,000; full dentures 100,000; partial dentures 60,000; root canal treatments 60,000; periodontal treatments 110,000; orthodontic treatments 150,000; and fluoride treatments 50,000 and many other services.

A careful perusal of this comprehensive report will prove profitable in that the reader can compare his own activities with the averages presented here.

M.H.G.

BOOK REVIEW

Surgical Pathology of the Mouth by Wilfred Fish, C.B.E., M.D., CH. B., L.D.S. (Manch.), D.D. SC (Melb.), D.S.C. (Lond.), F.D.S.R.C.S., (Engl.), — (from the Meyerstein Laboratory for Dental Research, St. Mary's Hospital, London)—Dental Surgeon St. Mary's Hospital, London; Late Dental Surgeon Royal Dental Hospital, London; Hon. Research Associate in Physiology, University College, London; External Examiner in Oral Anatomy and Physiology, University of Durham; Late Examiner in Dental Surgery and Pathology, University of Manchester. Illustrated by 10 coloured plates and 236 photographs most of which are micrographs. 463 pages. Published and distributed in Canada for Sir Isaac Pitman and Sons Press, England, by the J. B. Lippincott Company, 2083 Guy St., Montreal, Canada.

The author of this book is a recognized leading authority in dental science. He has written this book for dentists with an appreciation of their interests and needs. An attempt is made to co-relate dental practice with basic

sciences thus enabling a more understanding approach to the treatment of dental diseases.

The book begins with a comprehensive introductory chapter dealing with a histologic discussion and a review of the biologic status of the dental tissues. There are 17 further chapters that logically follow in sequence; these include such titles as—Cell Growth and Degeneration; Circulatory Disturbances; Inflammation; Chemotherapy and Bacterial Defences; Surgical Pathology of Bone; Pathology of the Dentine and Dental Pulp; Pathology of the Pulpless Tooth; Pathology of Parodontal Tissues; Foci of Infection; Neoplasia; etc. The final three chapters deal with tumours.

The book is splendidly written and well illustrated with photomicrographs and roentgenograms. The reader may not concur with all deductions but at least the work is highly constructive and instructive. Its purpose as stated by the author is a hope that it "may serve to make operations on the dental tissues more predictable and less empirical."

The book will repay for time spent in careful reading.

T. R. M.

Parents for the most part expect the dentist to provide a health service, not entertain their child. Parents frequently complain about previous experiences when the dentist merely rode the child up and down in the chair, demonstrated how to make dolls out of cotton rolls, or took the child's picture and developed it "on the spot." Few of them will want to pay an hourly fee for entertainment, comparable to that expected for routine dentistry, yet for every appointment period in the day the dentist should be compensated. Since parents bring their children to the dentist because they are interested in good dental health, it is the dentist's responsibility to see that a health service is rendered.—Ralph E. McDonald, B.S., D.D.S. in Ill. D. Jour.

ROYAL CANADIAN DENTAL CORPS NEWS

1. Colonels J. F. Edgecombe, OBE, ED., L. E. Kent M.B.E.; C. L. Strachan, ED, and W. E. Addinell have been appointed ADDS on the Reserve Force Dental Advisory Staff in Eastern, Quebec, Central and Western Commands respectively. The promotion of the latter three officers from Lt-Col. to Col. was effective on the date of their appointment.

2. Colonel J. F. Edgecombe was born in Fredericton, N.B., attended the University of Toronto, Royal College of Dental Surgeons of the Province of Ontario, and was graduated in 1923. During the Great War 1914-18, he served with the 9th Siege Bty. in Saint John, N.B., September 1916—February 1917, later proceeding to France with the 43rd Bty, C.F.A., where he remained for the duration. From 1926-39 he was a member of the 3rd Coast Bde attaining the rank of Major. Colonel Edgecombe was appointed to the C.D.C. in November 1939 and served in the United Kingdom, Italy and Continental Europe. While overseas he held the appointments of ADDS, HQ First Cdn Army, ADDS HQ Cdn Section 1st Ech AFHQ and ADDS AG Branch at Cdn Army HQ in London Eng. Following his return to Canada he served at NDHQ in Ottawa for some time prior to his retirement in March 1946. For his distinguished services, he was appointed an officer of the Most Excellent Order of the British Empire and was awarded the Canadian Efficiency Decoration in 1944.

3. Colonel L. E. Kent was born in St. Anne de Bellevue, Quebec, and was graduated in Dentistry from McGill University in 1923. Col. Kent was appointed to the C.D.C. in October 1939 and served in Canada and the United Kingdom. In England he was on the Staff of the Assistant Director of Dental Services and later was Officer Commanding No. 18 Base Dental Coy. He retired from Active Service with the rank of Lt-Col. in November 1945 and resumed his dental practice in Lachine, Quebec. Col. Kent was awarded the MBE for his services and recently was appointed Honorary Lt-Col. No. 39 Base Dental Coy RCDC (RF), which he now vacates on accepting senior rank and his new appointment.

4. Colonel Strachan was born in Jarvis, Ontario and was educated at McMaster and Toronto Universities, graduating in Dentistry from the latter in 1924. Following graduation he established practice in Virden, Manitoba, where he

remained until his appointment to the C.D.C. in October 1939. During the Great War 1914-18, Col Strachan was associated with the R.A.F. as a cadet. He later became a member of the 12th Manitoba Dragoons in the NPAM, attaining the appointment of Adjutant with the rank of Captain. Col. Strachan was overseas from January 1940 until May 1945 and served in the United Kingdom and Northwest Europe. In 1944 he was promoted to Lt-Col. and appointed to command No. 16 Base Dental Coy. On his return to Canada in March 1945 he retired to Reserve Status and resumed private practice in London, Ont. When No. 1 Coy RCDC (RF) was organized in April 1947, Col. Strachan was appointed Officer Commanding and held the post until December 1949.

5. Colonel W. E. Addinell, born in Ulleskelf, Yorkshire, England, attended the University of Alberta and the University of Toronto, graduating in Dentistry in 1926. He was appointed to the C.D.C. in 1939 and served in Canada, United Kingdom, Sicily and Italy retiring from Active Service in 1944. In January 1949, Col. Addinell transferred from the Supplementary Reserve to the Reserve Force and was appointed to command No. 3 Coy RCDC (RF) with the rank of Lt-Colonel.

6. Captain J. T. Marshall, who served with the C.D.C. during the Second World War, has been reappointed to the Corps. Capt. Marshall, born in Bridgetown, N.S., attended Dalhousie University and was graduated in 1941.

7. The appointments of Captains D. J. Carmichael, G. I. T. Bisailon and J. E. MacDonald to the R.C.D.C. was recently announced.

8. Captain D. J. Carmichael was born in Vancouver, B.C. and attended the University of British Columbia and the University of Oregon, graduating in Dentistry from the latter in 1950. During the Second World War he served with the R.C.A.F. in Canada and the United Kingdom, retiring in 1945 as a Flying Officer.

9. Captain G. I. T. Bisailon was born in Blizzard Valley, Ontario and was graduated in Dentistry from the University of Montreal this year. Capt. Bisailon served with the RCAF in Canada and the United Kingdom during the Second World War.

10. Captain J. E. MacDonald was born in Amherst, N.S., attended St. Francis

Xavier and Dalhousie Universities and was graduated in Dentistry in 1950. During the Second World War, Capt. MacDonald served in the Canadian

Army from 1943 to Sept. 1945 and saw service during that time in Canada and the United Kingdom with the R.C.A.-M.C.

CANADIAN DENTAL ASSOCIATION NEWS

FROM THE OFFICE OF THE SECRETARY

1951 Annual Meeting Ottawa—Chateau Laurier

Board of Governors—1st Session Wednesday September 19 at 1.30 p.m.
Convention—September 23-26.

Send requests for reservations to:
Dr. H. N. Beach, Secretary, Convention Committee,

150 Metcalfe Street, Ottawa, Canada.
Secure identification certificates for reduced railway fares from:
The Secretary, Canadian Dental Association,

234 St. George Street, Toronto, Ontario

Dr. K. M. Johnson appointed representative:—Dr. K. M. Johnson, Winnipeg, has been appointed Representative of Manitoba to the C.D.A. Board of Governors. Dr. Johnson is a 1913 Toronto Graduate. He has served in many official capacities including the following: President, Western Canada Dental Society; President, Manitoba Dental Association and President, Winnipeg Dental Society. He was elected to the Manitoba Dental Board in 1948 and served as President of the Board during 1950. As a result of his active participation in organized dentistry for many years he brings a wealth of experience to the C.D.A. Board. He succeeds Dr. H. J. Merkeley, Past-president of the C.D.A., as representative for Manitoba.

First Canadian Course for Hygienists Announced:—Announcement has been made that a new course of dental hygiene will be offered women by the Faculty of Dentistry, University of Toronto, next September.

The course will be two academic years leading to a diploma, and will be open to girls 17 years old on or before June 1, 1951. A maximum of 10 students will be accepted and tuition will be \$250 for the course. Requirements are Ontario secondary school graduation diploma in the general course showing credit has been obtained in four optional subjects, and the Ontario Grade XIII or equivalent certificates in nine papers of specified subjects.

Emergency Civilian Defence:—Several meetings of National Health Representatives have been held in Ottawa during

recent months, upon this subject. These meetings have been concerned for the most part in the making of preparatory plans. Care has been exercised in not releasing information until there exists some certainty that the advice given is reasonably right. Members of all health professions will be requested to serve cooperatively with definite specified duties. It is hoped that definite prepared information will be available in the near future. Some educational subject matter in the form of reprints has already been distributed to members. These reprints should be retained for future reference.

Publications Available:—The following C.D.A. publications may be obtained on request to: Canadian Dental Association, 234 St. George Street, Toronto. (Single copy free: prices quoted on quantities.)

Dentistry as a Career—English and French Editions. A booklet designed to be helpful to speakers on the subject of Vocational Guidance and students interested in dentistry as a career.

Can Tooth Decay be Stopped—English only. Reprint of an article presenting statements upon a scientific basis respecting the various advocated panaceas for caries of today.

Industrial Dentistry—English only. This booklet presents various plans for the establishment of dental services in industry and has been published in a form to be helpful to both members of the profession and industries concerned.

Charter for Dental Health—English and French editions. A pamphlet outlining the approach to the establishment of a sound plan in dental public health.

Statement of Dental Health Policy—English and French editions. An attractively printed card on which is stated the Association's policy on dental health in simple language easily understood by laymen.

Dental Health Guide for Teachers and Parents—English only. A leaflet which contains suitable instruction on dental health.

Your Teeth—Your Health—English only. A reprint of an address by Dean R. G. Ellis presenting dental problems to laymen.

Champions—English only. A graphic

story of Pete O'Brien and his experience with dental health.

Healthful Living — English only. A question and answer leaflet in which questions often asked about dental health are answered in simple terms.

Diagrammatic Chart (36" x 30") — This chart is an enlarged longitudinal section of three teeth illustrating the various structures and conditions both normal and pathological—a good chart for instruction purposes.

NEWS FROM THE PROVINCES

QUEBEC



Left to right: Dr. Arthur L. Walsh, Dr. A. T. Donohue and Dr. Arnold Mitchell. Dr. Walsh presenting the "Art Walsh Cup" for Low Gross to Dr. Mitchell at the Annual Golfing Weekend of The Montreal Dental Club held June 1-3, while the donor of the cup, Dr. Donohue, looks on.

PRINCE EDWARD ISLAND

Nearly one hundred representatives of the dental profession gathered at Charlottetown for the **Maritime Dental Convention**, June 27-28, with Dr. Heath McIntyre acting as chairman.

Guest speakers included Dr. Roy G. Ellis, Dean, Faculty of Dentistry, Univ. of Toronto; Dr. James E. McCutcheon, Associate Professor of Prosthetic Dentistry, McGill University; Dr. J. H. Johnson, Professor of Dental Surgery and

Anaesthesia, Univ. of Toronto; Dr. Carlos Weil, Professor of Operative Dentistry, Temple Univ. School of Dentistry; Drs. James P. McGuigan, J. Merritt, and H. S. Crosby of the Faculty of Dentistry, Dalhousie University; Dr. J. E. Goodman, Associate Professor in Operative Dentistry, Tufts College; Dr. Lemuel E. Prowse, Charlottetown; Dr. Hugh McLaren, Dental Division of Public Health and Welfare, Ottawa; Mrs. Helen Marsh, Information Services Division, Ottawa, and Dr. B. J. O'Meara, Director of the



Left to right: Dr. Erwin Burbank and Dr. Lindsay Mussells having tied for Low Net, receive their prize from Dr. Arnold Mitchell.

Dental Division of Public Health, Charlottetown.

Many prominent men outside the Maritimes were in attendance including Dr. R. P. Lowery of Toronto, President of the Canadian Dental Association.

Charlottetown Guardian.

BRITISH COLUMBIA

Publications of the Department of Health and Welfare, and news items from the press generally indicate continuous and definite progress in the development of **Dental Public Health Programs in British Columbia**. A most satisfactory feature of this activity is the fact that the initiative in developing the programs rests largely with the people of the districts concerned.

Public interest in dental health is aroused through the various methods adopted by the Division of Preventive Dentistry, in co-operation with the public relations committee of the British Columbia Dental Association. In many

instances, a demand for action has come from the people themselves. The Division is well prepared to meet such demands with a choice of several programs, which were fully described in an article on dental public health in the June issue of the Journal of the C.D.A.

With the enthusiastic encouragement of officials of the Division of Preventive Dentistry, and with the co-operation of public health nurses, and other officials in the field, meetings are arranged and committees are formed to study the various programs available to them. A very considerable amount of applications and study of local conditions and needs is required of the committee, together with consultations with officials of the Division, before a decision can be made to proceed, and a definite program selected as most suitable to their needs. Much more ground work must then be done before the program is fully implemented.

In contrast with straight public health programs administered completely by the state, the advantages of this voluntary

system must be readily evident. The people are already well acquainted with the results of dental defects. A little education and suggestion plants the seed that grows into a demand for some form of solution to the problem. A well prepared and most willing co-operation from the Division of Preventive Dentistry assists the public in selecting and developing the plan most suited to their needs. Throughout, the public concerned feel that the problem, the plan and the solution are theirs, and there is no sense of having had some cut and dried, unalterable and perhaps quite unsuitable program imposed on them.

The officials of the Division of Preventive Dentistry, and in particular, Dr. W. S. Hall, may take a bow, with the receipt of a letter from the Supply Department of the Federal Department of Health and Welfare. The letter states that the medical officers of that department were much interested in the dental health plan for British Columbia, and especially in the very well designed and compact transportable equipment shown in that connection. They asked for further information as to the manufacture of the equipment, and its availability, stating that it was quite the most compact and efficient that they had seen.

At the recent **Examinations of the Council of the College of Dental Surgeons of British Columbia**, thirty-six candidates presented themselves for admission to practise in this Province. Thirty-three of these passed the examination successfully, and three failed in clinical work, only.

Among the candidates were representatives from Saskatchewan, Manitoba, Ontario, Alberta, and B.C. It is encouraging to notice that many of these recently admitted members of the profession in this Province will open offices in some of the less densely populated centres, such as Princeton, Penticton, Trail, Kelowna, Vernon, Mission City, Prince George, Dawson Creek, etc.

SASKATCHEWAN

Hospital Care: — One Saskatchewan resident has received three and one-half years of hospital care at a cost to himself of only the amount of his hospitalization tax each year, plus 45 cents for certain drugs not included in the plan's schedule of benefits, according to G. W. Myers, executive director of the Saskatchewan Hospital Services Plan. Believed to be something of a record, or at least an unusually long hospitalization period, the man's time in hospital spanned 1,295 days. . . . A total of \$7,489.63 was paid by the Plan on his behalf.—*Saskatchewan News*, May 1, 1951.

ONTARIO

The **London and District Dental Society** held its annual golf tournament at the Highland Golf Club in London on June 14. Over 100 dentists and dealer representatives attended with 70 playing golf. Dr. Harold Dickson was chairman for the dinner. Greetings from the London Dental Society were extended to the visitors by President Dr. Doug. Stiles who also introduced four new dentists in the city, namely Drs. J. Dean, J. Belecky, W. Morris and R. Wainwright. A telegram of greetings was received from Dean R. G. Ellis. Dr. A. D. A. Mason, recently elected a Fellow of the Academy of Medicine of Toronto, Dr. R. C. Woods, Pres.-elect of the Ontario Dental Association, Dr. F. J. Furlong, C. A. McKenna, Dr. S. A. Moore, Dr. Fred Kennedy, Dr. Sydney Woollatt and Dr. Lee Honey gave brief addresses. Dr. S. M. Kennedy announced that he was giving an annual prize for the low gross first nine. Dr. Fred Kennedy has recently been made a member of the Maxillo-Facial Society of America. Dr. Doug. Cousins and Dr. Jim Guest have been made members of the executive for the coming year as a result of the recent election.

Following is a list of prize winners:

Low Gross	— G. Milne—S. A. Moore Trophy
Low Net	— W. Moore—S. S. White Trophy
2nd Low Gross	— Hugh Smith
2nd Low Net	— Dave Way
3rd Low Gross	— Fred Baker
3rd Low Net	— W. Montgomery

Low Gross 1st nine M. Weaver — S. M. Kennedy prize.

A **New Dental Car** has been donated to the Ontario Provincial Dept. of Health by the Canadian National Railways. The Car houses a complete dental clinic including dental surgery with x-ray equipment, reception room, dark room, and laboratory. Dr. A. D. McLean has been appointed to conduct the service and will be assisted by his wife acting as dental nurse. The Car provides complete living quarters for Dr. and Mrs. McLean.

The Car will service a wide area in Northern Ontario where there is no regular resident dentist. Service will be available only to children. Dr. Phillips, Minister of Health, accepted the car on behalf of the province.

The **Grey-Bruce-Dufferin Dental Society** held its annual meeting and election of officers in Owen Sound. The meet-

ing took place at the Golf and Country Club where also the thirtieth annual golf tournament of the Society was played. A cruise around the bay was enjoyed by those not playing golf.

Dr. R. J. Godfrey and Dr. E. W. Doughton represented the Faculty of Dentistry,

Univ. of Toronto while members and guests were present from Barrie, Collingwood, Dundalk, Markdale, Mildmay, Paisley and Thornbury.

Dr. E. W. Saddler of Owen Sound is the new president.—*Collingwood Enterprise-Bulletin*.

BRITISH COMMONWEALTH NEWS

NEW ZEALAND

Comments on the National Dental Service of New Zealand by Dr. R. G. Ellis, Dean, Faculty of Dentistry, University of Toronto

In the summer of 1950 Dr. Ellis visited New Zealand to study the National Dental Service and as a result of this study he prepared a report for the Canadian Dental Association. His report was very comprehensive and as part of it he has made some observations and conclusions which are of interest to Canadian dentists. These observations and conclusions follow—

Observations:

Scope of Dental Health Service

The National Dental Service of New Zealand provides a service devoted almost exclusively to treatment and repair of dental caries.

The two phases of the service as it is now organized must not be confused. The first phase, the School Dental Service began nearly 30 years ago; the second, a service for adolescents, was provided for under the Social Security (Dental Benefits) regulations of 1946.

(a) School Dental Service

The principle of this service is early recognition and early treatment of the results of one phase of dental disease, namely, dental caries, in the primary (and intermediate) school children (up to approximately 12 years of age).

The service is rendered by auxiliary personnel, namely the School Dental Nurse, trained for the purpose.

The education of the School Dental Nurse comprises two years of dentistry (not under University jurisdiction but in the government training school) following high school education equivalent to Ontario Grade XI as a minimum, with approximately 50% of the trainees presenting the equivalent of Ontario Grades XII.

A critical evaluation of the curriculum offered in the training of the Dental Nurse leads one to observe that the Dental Nurse upon graduation is a well trained Operative Technician. The course content of approximately 1,560 hours includes nearly 1,000 hours of Operative Dentistry (65%); the biological sciences

comprise only about 9%; Dental Health Education 6%, and a series of miscellaneous special dental subjects complete the schedule.

As an Operative Technician the School Dental Nurse is well trained and provides an excellent technical service in her limited field. She has proven herself to be extremely capable in handling children. Particular mention is made of the excellent type of girl who enters the service; they display initiative, enthusiasm and great interest in their domain.

For the limited education and experience provided in training in diagnosis, they are given responsibility beyond comprehension in examination and treatment planning. Consequently, the examination is principally an exercise in hole-finding.

The School Dental Service, based on early recognition and early treatment of the ravages of dental caries is surprisingly indifferent to the pre-school child. It is true that some pre-school children receive attention but they do not occupy first place in a program which logically might be expected to place them in a position of supreme importance.

The School Dental Nurse is a government servant and cannot enter into practice either privately or as an assistant to the private practitioner.

(b) Service for Adolescents (Social Security—Dental Benefits)

This service is an extension of the School Dental Service to the population of high school age. The service is given by fully qualified dentists, either in the Government Service or private practitioners. As in the case of the School Dental Service, it is essentially remedial.

Since this phase of the service was only inaugurated in 1946, it is too early to determine its effectiveness. Suffice with the observation that it appears to have been initiated without regard to the availability of dental personnel. The ultimate effect of spreading the services of the profession too thinly over the population will be reflected throughout all aspects of the service and is a serious matter for all concerned.

Attitude of the Profession

The dental profession is favourably inclined toward the School Dental Service. They point to the totally inadequate

training they received in Dentistry for Children and admit their willingness to have the young children placed in the care of the National Dental Service. For one reason they say that the child brought up under the School Dental Service is a better prepared patient psychologically.

Three years ago the teaching in Paedodontia was revised and greatly increased but one wonders whether it isn't too late. The head of the Department of Paedodontia is a very capable and enthusiastic young man with overseas postgraduate training, but he has a long pull ahead to reorientate the thinking of the profession in relation to Dentistry for Children.

When the Service for Adolescents was announced the Profession reacted in opposition to the extension of Dental Benefits to the age of 19, but have accepted as a compromise—to age 16. Now we see the profession expressing concern because more and more of the younger children (ages 11 and 12) are being placed on Dental Benefits to relieve the pressure on the School Dental Nurse.

Attitude of the Public

From conversations with lay persons, from principals of schools and teachers, to the parents and the person on the street, it can be stated that the National Dental Service is accepted with favour. It is well established as a good thing in the mind of Mr. and Mrs. Public. The average lay person has little idea what it is costing him personally because the government pays for it. I'm sure the parents of the average New Zealand child hear less complaints of toothache than in other countries.

Health Education

Until very recently, dental health education has not been adequate. One soon becomes aware that the attitude of the lay person is that sooner or later the teeth will be lost. Thus, when the treatment given through the National Dental Service ends, extractions and dentures soon follow. To my inquiry as to what percentage of children continue with regular attention by the private dentist after Social Security Benefits cease, I was advised that it was too early to make a statement. We might add the observation that if a 100% follow through were accomplished the present dental personnel would be unable to cope with the situation. Perhaps the best evidence of the ineffectiveness of the dental health education came to hand during the recent war. A large percentage of the young men in the New Zealand forces wore dentures.

A strong, well organized, dental health education program is now in the making, but it would have been more effective as

the foundation to the overall program rather than as it must be now, something superimposed on top of a well-established treatment service.

Research

A positive health approach is dependent on knowledge applied for the purpose of preventing disease. The preventive phases in dentistry have not been developed beyond mere generalizations which in the case of the New Zealand Dental Service is indicated by failure to reduce the high incidence of dental disease among the children in New Zealand. The incidence of dental caries in New Zealand is still estimated to be 1½ to 2 times as great as on this continent.

It is significant that the Minister of Health of the present New Zealand government recently is reported to have stated in answer to criticism of the National Dental Service, "very little has been spent on dental research in New Zealand, and this is a field which I hope to see expanded in the future. If a bigger proportion of money had been put toward preventive work in the field of dentistry, the dental health of the whole of the population of New Zealand would have been better than it is today".

Research, like dental health education is being given increasing prominence in the National Dental Service, but this trend is of recent date.

Cost of National Dental Service

The total cost of this treatment service in all its phases is approximately half a million pounds a year. This includes interest and depreciation on all school dental clinics, training, administration, the service in School Dental Clinics and Social Security Benefits. The cost of the National Dental Service to the two million New Zealanders is approximately \$10 per head per annum. The cost of the School Dental Service (children under treatment as of December 1949 was 226,636) equals £1/8/11 or approximately \$4.61 per child.

Psychological and Political Trends

With the benign acceptance of the School Dental Service by all parties concerned and particularly the members of the dental profession, a psychological adjustment has taken place resulting in an attitude which condones the use of auxiliary personnel in the clinical practice of dentistry. The dental profession in New Zealand is at this very moment reacting violently to the increasing pressure of the dental prosthetic technicians for recognition. The politician poses an embarrassing question when he asks "if Operative Technicians are acceptable for children, why not Prosthetic Technicians for adults?"

Conclusions:

The National Dental Service of New Zealand as a treatment service has contributed nothing to the stature of dentistry as a positive health service.

The School Dental Nurse is a well trained, capable Operative Technician. Her responsibilities in diagnosis and treatment planning far exceed her training for this important aspect of dentistry for children, to the detriment of the child patient.

The extension of the service in 1946 to the adolescent population before preventive measures were established by research and dental health education had become more effective, has placed a staggering load on the National Dental Service and on the dental profession.

The dental profession have been responsible in no small measure for reducing the most important aspect of the practice of dentistry, namely, dentistry for children, to the status of a technical service.

The population is firmly convinced that the National Dental Service in its present limited form is a great asset.

Had an effective dental health education program preceded the introduction of the treatment service, the National Dental Service of New Zealand would have presented a vastly different complexion today. Nevertheless, recognizing the need for health education, a well-conceived program is being pressed with the utmost vigour.

What has been said in the previous paragraph about health education applies equally to the subject of research. However, there is little evidence that plans for the immediate future will avail great benefits. As in so many other areas of this world, dental research receives support that is best described as "too little and too late".

The National Dental Service is economically unsound. In spite of the doughty effort being made to maintain a high standard of service to those eligible to receive treatment, the service is losing ground as the child population increases and the backlog of need expands. Hence, the present cost per child must rise. This trend will continue until such time as preventive and control measures reduce the incidence of dental disease. The latter will take place only when dental health education and research become effective.

Finally, one can envisage the acceptance of the Operative Technician for children giving place to other phases of dentistry being delegated to technical services.

GREAT BRITAIN

Half Population Treated Under Health Service:—Mr. Hilary Marquand, Minister of Health, speaking at the fourth anniversary dinner of the Faculty of Dental Surgery, Royal College of Surgeons of England on July 6, said that the National Health Service had been in operation for just three years. During that time more than half the population of England and Wales had received dental treatment. The actual total was over 23,600,000. The number who had been supplied with dentures was about 7,000,000—or nearly one out of every four adults.

They were still worried about the Priority Dental Service for mothers and young children, but although the underlying cause was the overall shortage of dentists they hoped that the new salary scales for public health dental officers would help to ease the position.

Health Centres:—Approximately one-half of the Report of the Central Health Services Council for 1950 is devoted to recommendations on the development of health centres. These are divided into a long-term plan and an immediate practical program. In general the Council recommend that a health centre should normally cater for a population of 10,000 to 20,000 and that it should be staffed by 4 to 8 general practitioners. The number of dental practitioners required is put, for the present, at about half the number of doctors; it is, however, envisaged that eventually a larger number of dentists would be required. There is also a suggestion that, "as the larger dental departments are more economical in administration, one dental department might be designed to serve more than one health centre where this is geographically convenient."

New Dental Game: — Salford school-children are playing a new game — designed to give them better health and prevent unpleasant visits to the dentist, says the Manchester Evening News.

It has been devised by a health education officer in the town, and is played like snakes and ladders on numbered squares with counters and a dice.

If a counter lands on a square, for example, "You ate a sweet after you cleaned your teeth at night," the player goes back six moves, while "You have clean, white teeth with all the holes filled" means a move up four spaces. "Home" is a mouth of white, even teeth.

GENERAL NEWS

Asthma and Amalgam Fillings:—To The Editor:—A woman aged 38 has had asthma for many years. She had many positive reactions to skin tests, and the disease was easily controlled. After she had six dental cavities filled, her asthma became severe, requiring constant symptomatic medication. Has a relation between mercury amalgam fillings and asthma been reported?—McKinley London, M.D., Cleveland.

Answer:—Allergy to mercury is not uncommon, and occasionally the source of this may be mercury amalgam. However, the allergic reactions from metallic mercury or inorganic salts of the latter are consistently those of contact allergy (e.g., dermatitis and stomatitis). Asthma from metallic mercury would be highly improbable in view of established experience and the accepted concept that metals or their inorganic salts do not ordinarily produce atopic manifestations (e.g., asthma and allergic rhinitis).—Queries and Minor Notes, J.A.M.A., April 14, 1951.

Aureomycin or Terramycin Gastro-Intestinal Irritation:—The Mayo Clinic reported in July that when oral administration of aureomycin or terramycin is accompanied by gastro-intestinal irritation, it is advisable to use an agent which will control this complication. Aluminum hydroxide gels prevent gastro-intestinal symptoms but have been shown to interfere with absorption of the antibiotics. The use of milk, which allows maximal absorption, is simple and effective. At times the use of milk is undesirable, as in patients receiving a nonresidue diet, those who have a distaste for milk or tolerate it poorly, and in the occasional case in which vomiting is not prevented by milk. The studies show that certain antacids are effective in controlling nausea and vomiting and allow maximal absorption of terramycin, making them suitable for use instead of milk when administration of the latter is undesirable.

Because of its universal availability and negligible cost, the report states, sodium bicarbonate should prove a useful drug for preventing gastro-intestinal irritation from aureomycin or terramycin when there is no contraindication to the use of this systemic alkali.

Another development in research on tooth decay has been made known by two scientists reporting on a preliminary experiment with a sugar-free chewing gum containing a nitrofurant.

Nitrofurant are substances used principally as anti-bacterial agents in dressings for wounds to prevent infection.

Writing in The Journal of the American Dental Association, Dr. Samuel Dreizen and Dr. Thomas D. Spies, of the department of nutrition and metabolism of Northwestern University, Chicago, said that a group of individuals who chewed the specially-prepared gum immediately after eating showed a substantial reduction in dental decay.

"Because of the relatively small number of patients included in this study," the scientists cautioned, however, "these findings must be considered as preliminary in nature."

Their report was based on a one-year study of 80 persons between the ages of six and 38 at Hillman Hospital, Birmingham, Ala.

During the test period, an experimental group of 30 persons chewed the gum for at least 10 minutes directly after each meal. A second group of 25 persons chewed a similarly-prepared gum not containing the nitrofurant. The third group did not chew any gum.

X-ray examinations at the end of the year revealed that the experimental group had developed an average of only .8 new cavities compared with an average of 3 new cavities for the group that chewed the specially-prepared gum without the nitrofurant. In the third group an average of 3.8 new cavities developed.

Dental Caries Experience in New Zealand: — Dr. James Dunning of Boston, Dean of Harvard School of Dental Medicine, in a paper published in the July issue of the New England Dental Journal, compares two surveys of dental caries prevalence in New Zealand school children 12 to 14 years of age with four surveys from different states in the United States where somewhat similar DMF rates have been found. Among the most striking results of this comparison are:

1. Both surveys of New Zealand school children show tooth fatality rates (missing teeth divided by DMF teeth among children 12-14 years of age) less than half as great as the lowest tooth fatality rate found in any of the United States samples.

2. Even if 28% of the fillings in the mouths of New Zealand children are assumed to be defective and none of the fillings in the mouths of the American children are assumed to be defective, the New Zealand children 12-14 years of age have received more good fillings per child than have the children in any of the American samples.

Voluntary Health Insurance Study:—There are about 75,000,000 people insured in varying degrees by voluntary

health plans, while another 75,000,000 are not covered by any form of medical care insurance, according to the report of the U.S.A. Senate labour subcommittee on health submitted to the U.S. Senate. However, the survey disclosed, less than 3 per cent of the population—between 3 and 4 million people—have comprehensive medical care insurance, including hospital, surgical and relatively complete medical insurance, despite the fact that voluntary health insurance plans have shown “a striking increase in the last ten years.”

Some of the factual highlights of the report are as follows. (1) Of the nine to 10 billion dollars spent for medical care in this country in 1949, about 8 per cent or \$755 million was paid for through insurance. (2) In addition to the 3 to 4 million persons covered by comprehensive plans, 17 million—11 per cent—have hospital, surgical and limited medical insurance. About 21 per cent—31 million people—“have some degree of protection against the costs of both hospital and surgical care.” A total of 15 per cent—23 million people—carry hospital insurance only. (3) The proportion of persons having hospital insurance is twice as high in urban as in rural states and twice as high in high income as in low income states.

There are many differences of opinion regarding the extent to which voluntary health insurance can be carried, the report stated, but “despite differences of opinion as to how many people need health insurance protection and as to just how much protection they need, there is general agreement that more people should have more health-insurance protection than is the case at present.—Eastern Underwriter 52:35 June 1, 1951.”

Sugar Consumption in 1950 Was 100 Pounds Per Person in U.S.A.:—Average sugar consumption per person in the United States last year was 100 pounds, according to a recent report in *The Market Basket*, U.S. Department of Agriculture publication.

The sugar was from the following sources, the report stated: 56 pounds from the grocery store; 10 pounds contained in soft drinks and other beverages; 10 pounds in pies and other bakery goods; 9 pounds in candy and confections; 7 pounds in commercial jams, jellies and canned fruits; 5 pounds from miscellaneous sources; and 3 pounds in ice cream.

The National Confectioners' Association recently estimated the 1951 candy consumption at 18.1 pounds per person as compared with 17.3 pounds in 1949.

Medical Education:—An overwhelming rush of American Students to European medical schools was reported June 6 by Dr. Morris Fishbein on his return from a European survey . . . Dr. Fishbein said that the situation represents a need that must be met by extension of medical education facilities in the U.S.A., where schools are limited in their admissions by availability of teachers and laboratory facilities. “I feel that the need for more medical men is so acute,” he declared, “that we shall have to find some means of utilizing Government funds without sustaining Government control to advance medical education.”

Dr. Fishbein said that the influx of American and other foreign students to European medical schools was being reflected in crowded conditions particularly in Switzerland and Denmark. In one Swiss school, he said, the recent freshman enrolment of foreign medical students rose to 600 to 700 from a normal of 100 a few years ago. Both in Geneva and in Copenhagen, he said, teachers are working two shifts. Dr. Fishbein said that in general he found medical student requirements in European schools a little lower than in this country but warned that we should not lower ours. “The last war proved,” he said, “that an accelerated program gives an inferior product.” —N.Y. Times.

Full approval of **two more schools of dentistry** has been announced by the American Dental Association's Council on Dental Education, the accrediting agency for the profession. They are the School of Dentistry, Creighton University, at Omaha, Neb., and the School of Dentistry, University of Alabama, Birmingham.

The action brings to 36 the number of dental schools that have now been fully approved. Five other schools of the nation's 42 schools of dentistry have been provisionally approved and one new dental school has not been in operation long enough to have been inspected by the Council.

Full approval was also accorded the **dental laboratory technicians'** curriculum in the extension program of the University of California at Los Angeles. The director is Dr. Eugene Ziegler. It is the first to be approved under the American Dental Association's newly-established accreditation program for schools for dental laboratory technicians.

A case of thromboangiitis obliterans in which a twelve-year “clinical cure” was obtained following complete withdrawal of tobacco has been reported in the proceedings of the Staff Meetings of

the Mayo Clinic. Whether the beneficial effect of abstinence from tobacco in thromboangiitis obliterans accrues primarily from arresting the disease process in arteries and veins, or whether circulation is improved merely by relaxation of unaffected arteries is hypothetical. That abstinence from tobacco is beneficial and should form the primary basis for all treatment in these cases is not hypothetical but is a well-established fact, according to the Report.

Propose Free Hospital Care for Over 65 Age Group in U.S.A.:—A free hospitalization plan for the aged and dependent groups, proposed by Oscar R. Ewing, Federal Security administrator, is reported being drafted into a bill to go before Congress.

The plan, which has Administration approval, would provide 60 days' hospitalization each year, at Government expense, for all persons over 65 who are entitled to social security cash benefits, regardless of whether they are receiving them. Widows under 65 with dependent children, and any other survivors entitled to social security benefits, also would be eligible for free hospitalization.

Cost during the first year is estimated at \$200,000,000, on the basis of 7,000,000 persons being eligible in 1953, of which 5,500,000 will be 65 or over, and the remainder widows and dependent persons.

The illegal making of artificial dentures by individuals unqualified and unlicensed to practise dentistry is a threat to the dental health of the public, a dental educator declared in *The Journal of the American Dental Association*.

Dr. Walter Henry Wright, dean of the New York University College of Dentistry, reported that the illicit practice was increasing in large cities and added:

"The dental profession can no longer maintain a complacent attitude toward the illegal making of complete dentures by technicians. Amid social changes, it is not improbable that such forms of low-grade dentistry might receive political sanction, unless dentists are intent on guarding the oral health of the public."

Calling for a more rigid enforcement of dental laws to protect the public's dental health, Dr. Wright pointed out that the making of dentures is indicated by the biologic requirement of each mouth, making it imperative that every procedure be under the control of the dentist to protect both the patient's dental health and general health.

"Design, support and occlusion (bite) are interrelated biomechanical requirements which cannot be delegated to the technician," he said.

National Health Insurance:—American Medical Association President Elmer L. Henderson said June 11 that the AMA could relax its two-and-a-half-year battle against compulsory health insurance. In a speech prepared for the first session of the AMA House of Delegates annual meeting, Dr. Henderson said that possibilities of a national health plan are now gone, "at least temporarily." He announced that the AMA's special intensive campaign against compulsory health insurance would stop by the end of this year. The regular AMA staff, he said, will now take over their job "to hold the ground already gained and ward off any new attacks." . . .

Dr. Henderson also urged continued support for AMA projects to improve American medical service. Among these he listed: (1) The National Fund for Medical Education, which will make a first distribution of money to medical schools about July 1. (2) Voluntary health insurance programs, now believed to cover about 80,000,000 people. (3) Grievance committees to iron out doctor-patient quarrels. — *Ann Arbor News* 117:12 June 11, 1951.

California State Dental Association Approves Postpayment Plan For Dental Care:—Approval of a postpayment plan for dental care was voted recently by the Board of Directors of the California State Dental Association. The plan was developed through the Bank of America.

The postpayment plan, which closely follows that successfully operated by the Detroit Dental Society, calls for a 5 per cent withholding on each contract. This sum will be deposited in a reserve account. Uncollectible items will be paid from the reserve. There will be no recourse against the dentist on contracts which cannot be collected by the bank. As the reserve fund builds up, the percentage withheld from each contract will be reduced. Patients will be required to pay 6 per cent interest on each account financed under the plan. Payments can be extended from three to eighteen months. In some instances, payments may be extended to as long as twenty-four months. Patients will fill out all papers in the dentist's office, but payments will be made to the Bank of America.

New Price Regulations Affect Dental Manufacturers and Laboratories in U.S.A.: — Regulations affecting dental products have been ordered into effect by the Office of Price Stabilization. Regulation No. 34, issued May 11 and effective May 16, fixes price ceilings on various technical services, including those

provided by dental laboratories. It requires laboratories to observe ceiling prices based on price levels prevailing between Dec. 19, 1950, and Jan. 25, 1951. The laboratories are required to post the ceiling prices and to keep them on file in their offices and in the local OPS offices.

More than 350 U.S. dentists and their families have already made reservations to attend the 11th **International Dental Congress** to be held July 19 through 26, 1952, in London, according to Dr. Oren A. Oliver, of Nashville, Tenn., U.S. treasurer of the Federation Dentaire Internationale, sponsor of the Congress.

One of the features of the Congress' scientific program, which will be held in the new Royal Festival Hall, will be summaries of 20 essays, surveying recent advances in dental science throughout the world. Emphasis will be on discussion of the papers by the audience.

The Fortnightly Review of the Chicago Dental Society said editorially in the August 1 issue that in recent months professional men in medicine and dentistry have become more noticeably concerned, or at least have developed a logorrhea on one subject—the **collection ratio between the service rendered and the actual cash income**. The following statistics are some that were quoted from the Chicago Department of Labour:—

Commodity	Per cent Increase since 1939
Sirloin steak	393.8
Coffee	351.4
Fresh milk	175.0
Man's suit	91.1
Automobile	104.9

It was also stated that the cost of living in general increased about twice as much as did the charges for medical and dental treatment during the same period of time. The overall cost of labour, ac-

cording to the Bureau of Labour Statistics, increased 139.9% in the 1939-50 period.

The question is asked, why then should we administrators of health, who have not kept pace with the general increase in prices, be among the last to receive financial remuneration? The professional man's cost of living, as exemplified by the increase in rentals, the cost of equipment and materials directly connected with his daily work, and his failure to keep pace with the general increase in the cost of living, places him in a category of diminishing returns.

Prepaid Medical Care Plan:—The Canadian Medical Association has approved a plan for prepaid medical care, which it calls "the answer to socialized medicine." The plan, expected to cost \$36 a year for a single person and \$72 for a family of three, calls for Government assistance on a sliding scale based on income for persons unable to pay the full premium. The Government would be asked to pay the full premium for those unable to afford it.—N.Y. Times.

The following amendment to the **Code of Ethics** was adopted by the Tenth District Dental Society of New York — "It shall be deemed unethical for any dentist or a member of this society to refer, or send a patient or any other person to any unqualified individual, or group not licensed or registered to practice dentistry in this state, or to any dental, prosthetic, porcelain, orthodontic, or other processing laboratory, etc., for consultation or for the purpose of taking shades of teeth, impressions or casts of the mouth or teeth, or making adjustments, alterations, or repairs of dentures, bridges, orthodontic or other appliances or structures of any other dental material, or to perform any individual dental operation whatsoever."

IN MEMORIAM

Marjorie Milne Legate of Owen Sound, Ontario, beloved wife of Dr. Harry B. Legate, died on July 12.

Dr. Marjorie Legate was graduated from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1917. She practised in Leamington for one year after graduation then became associated with the late Dr. A. J. McDonagh until her marriage in 1925. In Owen Sound she did some practice until 1944.

She was a member of Central United Church in Owen Sound and a member of the I.O.D.E. Her life was devoted to her profession and her family.

Dr. Legate is survived by her husband, Dr. Harry B. Legate and two sons, Stephen and Jerry.

Robert George Boyd Musgrove of The Pas, Manitoba, aged 59, died July 14. He was graduated from the Faculty of Den-

IN MEMORIAM

tristry, Univ. of Toronto in 1916 and practised for 34 years in northern Manitoba.

He was a life member of the A.F. and A.M., No. 124 Grand Lodge of Manitoba and also was a past deputy grand master. He was chairman of The Pas schoolboard for a number of years and was active in The Pas United Church, being choir leader for several years.

He was instrumental in starting The Pas Musical Festival.

Dr. Musgrove is survived by two sons, a daughter, a sister and four grandchildren.

George Arthur Maurice Adams of Toronto, aged 67, died on July 21.

Dr. Adams was graduated from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1905. He was a son of the late Dr. J. G. C. Adams who established the school dentist inspection service in the city of Toronto. Dr. Adams practised his profession in his native city.

He was a member of Timothy Eaton Memorial Church, and Lambton Golf & Country Club of which he was recently made a life member.

Dr. Adams is survived by his widow, three sisters and two brothers.

Louis Max Wintroppe of Toronto, aged 52, died July 12.

Dr. Wintroppe was graduated from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1920. He began practice in Toronto after graduation and continued until he retired in 1948 because of poor health.

He was a member of the Toronto

Academy of Dentistry and a life member of the Ontario Dental Association.

Dr. Wintroppe is survived by three sisters.

Ralph W. Huffman of Long Branch, Ontario, died on July 11, in his fifty-fourth year.

He was graduated from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1923. He has practised in Long Branch since graduation.

Dr. Huffman was a member of Lake Shore Progress Club and Long Branch United Church.

He is survived by his widow, two daughters and his parents.

Charles Alexander Fitzpatrick of Toronto died on June 23, 1951.

Dr. Fitzpatrick was graduated from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1900. He has practised his profession in Winnipeg and Brandon, Manitoba and at Rosetown, Saskatchewan. He was living retired in Toronto.

He was a member of the United Church, and a former Elder at Winnipeg and Rosetown.

He is survived by his widow and one daughter.

Howard Fowler of Clinton, Ontario, aged 83, died on July 3.

Dr. Fowler was graduated from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1903. He practised in Clinton until retirement in 1948.

He is survived by his widow and one daughter.

DIRECTORY

Canadian Dental Association Headquarters—234 St. George Street, Toronto, Ontario.

Matters relating to the publication of manuscripts or news items for the English Section of the Journal should be addressed to the Editor-in-Chief, Dr. M. H. Garvin, 314 Somerset Building, Winnipeg, Manitoba.

Matters relating to the French Section of the Journal should be addressed to the French Editor, Dr. G. de Montigny, 400 est Blvd. St. Joseph, Montreal, P.Q.

Matters relating to the business of the Journal should be addressed to the Business Manager, Dr. Don W. Gullett, 234 St. George Street, Toronto, Ontario.

All changes of address should be sent to Dr. Gullett before the 20th of the month, to become effective the following month.

Matters relating to advertising should be addressed to the Advertising Representative, Mr. Carl J. Hinch, Consolidated Press, 73 Richmond Street W., Toronto, Ontario.

Etude des défenses naturelles de la cavité buccale

par J. FORCIER DESILETS, B.A., D.D.S., Montréal

La cavité buccale chez l'homme s'ouvre à la partie inférieure de la face entre les deux maxillaires. Elle donne passage aux aliments et à l'air. Elle se compose de différentes parties selon les multiples services qu'elle rend au corps en général. Partie essentielle du corps humain, elle jouit des moyens généraux naturels de défense, et possède des moyens particuliers et spéciaux de défense, selon les différentes parties qui la composent, la constitution de ses tissus et les activités propres à chacune d'elles.

Si les moyens généraux de défense (préventive ou curative) du corps en général n'étaient pas bien proportionnés, il pourrait arriver que diverses parties, ou l'une d'elles, de la cavité buccale (comme les autres parties du corps d'ailleurs) puissent réclamer assez en leur faveur spéciale pour affecter le reste du corps en tout ou en partie. La nature a donné au corps humain des moyens de développement, de conservation et de guérison. Dans ce dernier cas, il s'agit donc des moyens naturels de défense. Quels sont ceux qu'elle a donnés à la cavité buccale? C'est le sujet de l'étude qui va suivre.

Il ne s'agit pas présentement de travail microscopique ou de recherche, mais bien plutôt bibliographique. La lecture de différents auteurs, quelques notes puisées ça et là complètent les connaissances personnelles mises au service du présent ouvrage.

Les différentes sortes de tissus qui forment la cavité buccale se divisent

comme suit: 1) les *tissus dentaires*, comprenant l'émail, la dentine, la pulpe et le cément; 2) les *tissus paradentaires*, composés de la membrane périodentaire et de la gencive; 3) les *tissus de soutien*, qui sont les os et le périoste; 4) les *tissus buccaux* proprement dits, formés de muqueuses et la langue, également recouverte d'une muqueuse; 5) la cavité buccale renferme des *organes* tels que les glandes salivaires, les glandes muqueuses, les glandes lymphatiques et les ganglions; 6) et finalement des *vaisseaux sanguins, lymphatiques* et 7) des *nerfs*.

L'arc dentaire est retenu dans un équilibre, tant que des forces anormales ne viennent pas le déranger, afin de conserver la santé et l'hygiène de la cavité buccale. Les convexités mésiales et distales composent un système de versants permettant ainsi le nettoyage des dents elles-mêmes, ainsi que la protection des tissus contre les lésions sérieuses.⁽¹⁾

Considérons du point de vue histologique les différentes éléments qui composent les tissus de la cavité buccale, ainsi que leur résistance devant une infection: 1) *Tissus dentaires* a) L'émail est une substance dure dont les sels minéraux forment 96% de sa composition: sels de calcium et de phosphore. L'eau et la substance organique forment 4%. Il est reconnu que l'émail constitue la substance la plus dure qui entre dans la composition du corps humain. Il est composé de bâtonnets ou prismes à six côtés de 4 μ de diamètre, de 20 à 30 μ de longueur et comprenant 12 à 30 millions

de cellules selon qu'il s'agit d'une incisive ou d'une molaire. L'émail est constitué des prolongements de Tômes. Chez l'adulte, il n'est pas calcifié d'une façon homogène et de ce fait produit quelques malformités. Parmi celles-ci on trouve: 1) la *lamelle de l'émail*: fissure qui en traverse toute l'épaisseur, de la périphérie à la jonction énamo-dentinaire. Cette fissure peut contenir toutes sortes de débris des tissus environnants; 2) la *touffe de l'émail* qui est une fissure ne se rendant pas à la périphérie; 3) la *fibres dentinaire de l'émail* qui est une seule fibre de Tômes dans l'émail; 4) le *fuseau* constitué de plusieurs fibres de Tômes dans l'émail; 5) les *lignes de Retzius*, qui sont des lignes de démarcation dans le processus de la calcification; 6) les *lignes de Hunter-Schreger*: lignes de démarcation dans chaque prisme (pas nécessairement dans tous) et dans la substance interprismatique. Les prismes constituant l'émail ont une direction ondulée qui fait que leur longueur est plus grande que l'épaisseur de l'émail.⁽²⁾

Les micro-organismes doivent être capable d'envahir et de nécroser les tissus organiques par la sécrétion de toxines. Seulement les tissus doués d'une très grande capacité défensive peuvent les combattre avec succès, en formant un cercle de défense. Les leucocytes et les histiocytes en formant des phagocytes s'attaquent aux corps microbiens eux-mêmes, tandis que le tissu fluide et les lymphocytes s'occupent de détruire leurs toxines.

Dans l'émail aussi bien que dans la dentine, une telle barrière de défense est impossible. Ces espèces de tissus ne contenant pas de tissu conjonctif, ni de circulation, la défense biologique devient irréalisable et il faut les considérer comme des positions perdues lorsqu'attaquées par des microbes. Cependant dans le procédé protéolitique de la carie, on rencontre toujours une production d'acide et l'action modérée de cet acide dans l'émail et la dentine, produit une hypercalcification, arrêtant ainsi le processus de la carie, formatrice de micro-organismes ordinairement du type staphylocoque doré. Par contre, une trop grande

action de l'acide peut atteindre la pulpe et causer du tort. Ainsi la barrière de défense d'hyper-calcification dans les tissus durs est plus sûre que la barrière biologique des tissus mous. L'hypercalcification ne peut être brisée par les microbes, tandis qu'une forte "exacerbation" aigue peut briser la barrière biologique de défense des tissus mous.⁽³⁾

b) La dentine est une substance cimentante calcifiée dans laquelle les fibres de Tômes et les fibres collagènes sont incrustées ou enfoncées. A la partie supérieure de la pulpe, il y a des cellules odontoblastes dont les prolongements sont les fibres de Tômes. Les espaces laissés par les fibres de Tômes et les fibres réticulaires forment les tubuli dentinaires tapissés par la membrane de Newman. Tout ce qui existe en dehors des tubuli dentinaires est calcifié. Comme l'émail, la dentine n'est pas toujours très bien calcifiée. On trouve la couche granuleuse de Tômes, qui est une zone de pauvre calcification dans la dentine, à la périphérie et surtout dans la racine. La cause n'en est pas encore certaine. On sait que plus l'activité de la source nutritive est grande, plus la calcification est pauvre.⁽⁴⁾

Chez les jeunes avec une couche d'émail intacte, les tubuli dentinaires se dirigent vers la pulpe d'une manière régulière formant ainsi la dentine. C'est la dentine primaire, appelée ainsi parce qu'elle est formée au début de la vie de chaque dent et à cause de la marche régulière des tubuli dentinaires. Tôt ou tard, les tubuli dentinaires, apparaissant à la surface occlusale, à la suite d'une blessure ou irritation quelconque pouvant résulter de l'éruption causée par l'occlusion, la mastication, sont exposés à cet endroit. A la suite d'une telle stimulation, la pulpe s'empresse de former une couche protectrice de tissu calcifié sur les extrémités centrales des tubuli dentinaires exposés et blessés. C'est la dentine secondaire. La marche de formation des tubuli dentinaires est moins régulière que dans la dentine primaire. La dentine secondaire est aussi moins perméable et contient moins de substance organique. De cette façon, elle protège la pulpe

contre les irritations et les blessures venant de l'extérieur. La dureté de la dentine secondaire est légèrement moindre que celle de la dentine primaire. La différence entre ces deux types de dentine peut se voir facilement au microscope. L'érosion, l'abrasion, la carie dentaire, une opération buccale (la dentine étant comprise) une fracture de la couronne (la pulpe n'étant pas exposée, et l'âge avancé) sont reconnues comme des causes amenant la formation de dentine secondaire.

La dent réagit aux infections non seulement par la dentine secondaire; la dentine primaire y concourt également en se sclérosant au niveau des tubili dentinaires blessés. Cette réaction au début a été décrite par W. D. Miller comme la "transparance de la dentine", parce que celle-ci change de qualité optique et devient plus transparente que la dentine primaire. La condition d'imperméabilité de la dentine, appelée sclérose par Baust, est une calcification additionnelle de la dentine causée par l'oblitération des tubili dentinaires. Ceci résulte d'une irritation externe. Cette sclérose conduit à la pulpe et est considérée comme une réaction de défense de la dent, parce que la dentine sclérosée est imperméable et augmente la résistance de la dent à la carie et à l'infection, ou à n'importe quel agent dommageable venant de l'extérieur.⁽⁶⁾

c) La pulpe est un tissu embryonnaire mésenchymateux dans lequel les éléments cellulaires et fibrillaires sont plus nombreux que dans le tissu conjonctif ordinaire. Ces éléments baignent dans une substance mucoïde. A la partie supérieure de la pulpe, se trouvent les odontoblastes d'où viennent les prolongements de Tômes. Sous cette palissade d'odontoblastes, on rencontre la zone de Weil, formée de capillaires et de fibres collagènes. La majeure partie de la pulpe comprend les fibres collagènes, les fibroblastes et les macrophages. Le rôle de ces derniers dans l'inflammation vient des histiocytes, des cellules mésenchymateuses indifférenciées, des lymphocytes banals du sang. Ces derniers, à l'infection, se mettent en mouvement, réalisent la

phagocytose et l'émission des anticorps. Après l'infection, la cellule retourne à son état fixe ou tombe en dégénérescence. En plus, on retrouve dans la pulpe de nombreux vaisseaux et filets nerveux. La pulpe sert à sécréter la dentine par les odontoblastes, à nourrir les tissus de la dent par ses très nombreux capillaires, à défendre l'organisme par les macrophages, et joue un grand rôle sensoriel à cause de filets nerveux qu'elle contient.⁽⁶⁾

Ordinairement en même temps que se produisent les réactions de la dentine, on retrouve celles de la pulpe. Parmi celles-ci, il y a l'atrophie du tissu de la pulpe ou dégénérescence des odontoblastes. Ces réactions peuvent être notées cliniquement et vues seulement au microscope. On a aussi la calcification de la pulpe. La formation d'éléments calcifiés dans la pulpe est souvent causée par un irritant ancien comme les caries et les obturations profondes.⁽⁷⁾

Il faut se rappeler que dans la pulpe il existe des conditions particulières du tissu conjonctif que nous devons comprendre. La pulpe est contenue dans un cadre rigide et aucune augmentation de volume est par conséquent possible. Donc pas de place pour des réactions inflammatoires. C'est justement lorsque celles-ci doivent se produire qu'une douleur intolérable est causée. A mesure que la nécrose de la pulpe se produit, la douleur tombe temporairement. La pulpe n'a également qu'une étroite communication avec les tissus conjonctifs de l'apex. Une barrière de défense est rarement formée à quelque niveau de sorte que la partie apicale de la pulpe peut être sauvée du dommage. Ceci revient à dire que dans la pulpe jusqu'à l'apex, la résistance est minime et la pulpe se putréfie inévitablement. Les agents microbiens se logent dans le canal pulpaire ainsi putréfié et projettent leurs toxines dans le tissu périapical. Lorsque celui-ci est assez affecté pour ne plus réagir, les micro-organismes envahissent jusqu'à ce que la réaction se fasse dans le sang, comme dans le cas d'une septicémie. Mais dans la plupart des cas, un mur de défense se dresse et l'envahissement des

micro-organismes ainsi que la destruction s'arrêtent là. L'étendue du champ périapical varie selon le lieu où s'érige la barrière de défense et selon sa réussite. Rendue à ce point, la santé générale de l'individu influe en grande partie sur le succès de ce mur de défense.⁽⁸⁾

d) Le ciment est une structure osseuse spécialisée, modifiée, qui dérive du tissu mésenchymateux. Ce sont les cémentoblastes qui secrètent une substance fondamentale organique dans laquelle les sels inorganiques sont précipités. Vient donc la calcification. A l'état adulte, immédiatement en dehors de la dentine, il y a une zone composée uniquement de substance fondamentale, sans cellule, ni sels de chaux, ni fibres de Sharpy.⁽⁹⁾

Dans des conditions physiologiques normales, le germe dentaire se développe dans la mâchoire et l'épaisseur du ciment croît régulièrement à mesure que la croissance de la dent se réalise.⁽¹⁰⁾

Le tissu cémentoïde est réparti en deux zones différentes alternatives: 1) le *ciment acellulaire*, composé de substance fondamentale calcifiée et des fibres de Sharpy; 2) le *ciment cellulaire*, composé de substance fondamentale calcifiée, de fibres de Sharpy et de cémentoblastes. Le ciment sert à fixer la dent à l'os alvéolaire par les fibres de Sharpy, à stimuler la formation de l'os alvéolaire par les fibres de Sharpy et les vaisseaux, à remplacer une certaine portion de l'os alvéolaire détruit lorsque c'est nécessaire, et finalement à protéger la dentine.⁽¹¹⁾

2) *Tissus paradentaires*: a) Notre corps tout entier est recouvert d'une couche épithéliale qui protège précieusement et hermétiquement tous les trésors intéressés. Les seuls endroits où cette couche épithéliale est perforée de trous sont ceux où s'insèrent les dents, faisant communiquer celles-ci avec l'os par le tissu conjonctif de la membrane périodontaire.⁽¹²⁾

La racine de chaque dent est attachée à son orbite par des groupes de fibres qui forment la membrane périodontaire ou le ligament dento-alvéolaire.⁽¹³⁾ Cette membrane se développe, à partir du sac dentaire. Elle tapisse les parois de chaque alvéole et par son tissu blanc, fibreux et dense, produit un attachement solide entre

la dent et l'os qui l'entoure. Ces fibres périodentaires s'étendent aussi dans les gencives sur tous les côtés de la dent et comme elles sont douées d'élasticité, exercent une traction sur les tissus et servent à faire épouser le collet de chaque dent.⁽¹⁴⁾

Les fibroblastes sont rares dans la membrane périodontaire. Les portions des fibres enfoncées dans le ciment et l'os alvéolaire s'appellent fibres de Sharpy. Selon le parcours de la distribution des fibres de la membrane périodontaire, on les classe en cinq groupes: 1) les fibres transseptales; 2) les fibres de la crête alvéolaire; 3) les fibres horizontales dento-alvéolaires; 4) les fibres obliques et 5) les fibres apicales. Les fibres de la gencive libre, allant du bord de l'alvéole à la gencive, forment un sixième groupe et ne concourent pas à la rétention mécanique de la racine dans son orbite.⁽¹⁵⁾

La membrane périodontaire se divise en trois zones: 1) la zone extérieure, qui entre en communication avec l'os alvéolaire; 2) la zone intérieure, qui entre en communication avec le ciment; 3) la zone intermédiaire, qui est composée de fibres collagènes libres.

La membrane périodontaire sert à fixer la dent dans l'os alvéolaire, à régénérer par les fibroblastes qui donnent les cémentoblastes dans la partie interne et des ostéoblastes dans la partie externe, à nourrir par les vaisseaux et percevoir les sensations par les filets nerveux.⁽¹⁶⁾

Les points de contact, les espaces interproximaux, les embrasures, les courbures labio-buccales et linguales, au tiers cervical et au tiers moyen des couronnes, les courbures de la ligne cervicale, mésiale et distale sont, d'après le Dr. R. Wheeler de St. Louis University Dental School, des facteurs provenant de l'anatomie de la dent, qui ont de l'influence sur la membrane périodontaire.⁽¹⁷⁾

Les symptômes de l'infection dans la membrane périodontaire sont les mêmes qu'ailleurs dans le tissu conjonctif tels: l'hyperhémie, la néoformation des vaisseaux sanguins, le ralentissement de la circulation, la migration des globules blancs (leucocytes-polymorphonucléaires) de l'intérieur des vaisseaux sanguins dans

le tissu conjonctif environnant et la diffusion d'un liquide à travers les parois vasculaires. Selon la virulence des micro-organismes et la résistance de l'organisme, le tissu infecté se désagrège et le pus se forme autour du bout de la racine comme dans le cas d'une périodontite aiguë. A ce stade, l'os alvéolaire a déjà réagi et les ostéoblastes sont en grand nombre, résorbant la lame interne de l'alvéole et l'os fragile près de celle-ci.

Les réactions des tissus mous péri-dentaires à l'infection bactérienne sont: l'hyperémie, l'oedème et l'infiltration leucocytaire. Ces tissus augmentent de volume et une pression est créée dans l'espace péri-dentaire apical, parce que la membrane péri-dentaire est comprise entre l'os et le ciment et, par ce fait, ne peut prendre d'expansion.⁽¹⁸⁾

b) La gencive est composée d'une muqueuse et d'une sous-muqueuse. Dans la muqueuse on retrouve un épithélium pavimenteux, stratifié, corné et un chorion composé de tissu conjonctif vasculaire, de fibres élastiques et de glandes de Serres. Quant à la sous-muqueuse, elle est très mince et peu développée.⁽¹⁹⁾ Normalement, les tissus gingivaux résistent hautement à l'infection et aux blessures causées par la mastication et les aliments durs. Les tissus externes, chez une personne en santé, sont durs et fermes, et ne peuvent être facilement rupturés ou déchirés de leur situation normale.⁽²⁰⁾

Ils sont tellement hermétiquement adaptés aux dents qu'ils offrent une très grande résistance à la pénétration des microbes. Tant que les tissus demeurent en bon état, l'attachement gingival réussit à protéger les tissus sous-jacents. Mais lorsqu'en raison d'une hygiène buccale pauvre ou lorsque les gencives sont en-barrassées par des amas d'aliments, de calculs, de couronnes, de ponts, d'obturations irritantes et que les masses de matériel infectieux demeurent en contact avec elles, les gencives deviennent irritées et inflammées. Etant donné que les tissus gingivaux ont une circulation terminale, une irritation légère peut produire un dérangement grave comme la congestion passive et active, la thrombose et toutes les autres réactions inflammatoires. Dans

ces conditions, l'état normal et la fonction des gencives est évidemment troublée. Observons que de toutes les muqueuses de surface de la cavité buccale, la gencive est la plus exposée à l'attaque des micro-organisme, à cause des trous qui sont faits dans cette membrane, (un pour chaque dent) lesquels persistent tant que la dent demeure en position. Mais la nature protège le corps à ces endroits et ferme l'entrée de l'infection à travers ceux-ci faisant en sorte que les bords de chaque ouverture sont dessinés et adhèrent autour de chaque dent avec la formation d'un bord rabattu en forme de sac, la gencive, qui embrasse fortement le collet de chaque dent. Il y a un espace peu profond entre le côté interne du bord rabattu de la gencive et la dent, c'est la crevasse gingivale au fond de laquelle la membrane muqueuse est fortement attachée au péri-cement par de fortes fibres de tissu conjonctif.⁽²¹⁾

Il est aussi de grande importance de constater la valeur de la membrane de Nasmith et de l'épithélium "uni". L'épithélium "uni" constitue une porte d'entrée vers la membrane péri-dentaire et sa fonction consiste à demeurer fermée, aussi longtemps qu'il peut et s'il est délogé, il doit lutter contre l'envahisseur. La crevasse gingivale est toujours en inflammation légère et doit être gardée en place. Lorsqu'elle est attaquée, les effets sont drastiques. La membrane de Nasmith sert de soutien à l'épithélium "uni" et, si ce procédé organique calcifié est détruit, c'est une forme insoupçonnée d'une grande pathologie dentaire.⁽²²⁾

3) *Tissus de soutien* L'os et le périoste. Le tissu osseux adulte a comme substance intercellulaire, une substance homogène, des lacunes ou cavités où se logent les ostéocytes. L'os a comme unité structurale la lamelle osseuse que l'on compare à la feuille de papier en rapport du carton. Dans cette lamelle, formée d'ostéocytes, on rencontre des lacunes étoilées avec des canalicules comme prolongements. Le tissu osseux est très dur et contient 75% de phosphore et 97% de calcium. Dans la cavité buccale, la partie osseuse des deux maxillaires est composée de l'os et du périoste. Le périoste est composé du

tissu conjonctif fibreux et d'os compact. C'est dans ce dernier que l'on rencontre le système de Havers, c'est-à-dire des cylindres à centre creux constitués par des lamelles osseuses concentriquement disposées autour d'une cavité tubulaire élaborant le canal de Havers. Les anastomoses entre ces canaux de Havers s'appellent les canaux de Volkman. Entre les divers systèmes Haversiens se trouvent les travées irrégulières qui forment des systèmes intermédiaires. C'est dans ce tissu osseux compact que l'on rencontre les fibres de Sharpy en relation avec celles de la membranes périodentaire.

L'os se compose de tissu osseux spongieux recouvert du périoste formé d'une couche d'os compact et de tissu conjonctif fibreux. Le tissu spongieux, qui entre dans la composition de l'os, est constitué de travées osseuses irrégulières, limitant des cavités intercommunicantes; c'est dans ces cavités que l'on rencontre la moëlle osseuse.

L'os se détruit continuellement par les ostéoclastes et les ostéoblastes, ou cellules osseuses qui sont formées dans la moëlle osseuse, donnant des ostéocytes et contribuent ainsi à reformer l'os. Ce phénomène se produit dans l'os spongieux. La vitamine A contribue aussi à détruire l'os par son action sur les ostéoclastes. Lors d'une résorption osseuse pathologique, les ostéoblastes sont formés en plus grand nombre dans la moëlle.⁽²³⁾

4) *Tissus buccaux* Les tissus de la cavité buccale sont composés d'une muqueuse et d'une sous-muqueuse. La muqueuse est formée: 1) d'un épithélium de surface stratifié, pavimenteux; 2) d'un chorion qui comprend du tissu conjonctif en faisceau, des vaisseaux, des filets nerveux et des glandes. La sous-muqueuse (ou hypoderme) est composée en grande partie de cellules graisseuses.

La langue se compose de deux parties: 1) la partie buccale ou libre; et 2) la partie pharyngienne ou la racine. Au point de vue structure, la langue est formée: 1) d'une muqueuse: épithélium stratifié, pavimenteux sans cornéification; 2) d'un chorion composé de tissu conjonctif, de vaisseaux, de nerfs et de glandes muqueuses; et 3) d'une muscu-

leuse composée de tissu graisseux mésenchymateux, de nerfs et de glandes. Dans l'épithélium de surface on rencontre des particules ou papilles. Dans la partie antérieure de la langue, ces papilles sont filiformes et fungiformes et au "V" lingual, elles sont circum-valariées.⁽²⁴⁾ C'est par la langue que les saveurs sont perçues et il serait trop long de décrire ici ce phénomène physiologique.

Les moyens de défense des tissus buccaux sont les mêmes que ceux des tissus en général que nous étudierons plus loin.

5) *Organes de la cavité buccale* a) *Les glandes salivaires* Au sens large, on appelle glande, toute cellule ou groupement de cellules épithéliales, siège de l'élaboration d'un produit spécial déversé par la suite, soit à l'extérieur c'est-à-dire à la surface externe ou dans les cavités internes, soit dans le milieu intérieur comme dans le sang ou dans la lymphe et quelquefois les deux. Les glandes salivaires se classent dans le premier groupe, leur produit de sécrétion étant la salive. Au point de vue histologique, on les appelle glandes composées ou lobulées conglomérées, leur origine étant l'ectoblaste. Elles se composent principalement d'un canal excréteur principal conduisant à des lobules conjonctifs dans lesquels on peut rencontrer quatre sortes de glandes: glandes acineuses, ramifiées, enroulées, et tubulo-acineuses.

Les glandes salivaires peuvent être purement séreuses comme les parotides, ou muqueuses comme les glandes linguales, ou mixtes. Dans ces dernières il y a les muco-séreuses dans lesquelles les acini séreux sont plus nombreux comme dans le cas des glandes sous-maxillaires et les séro-muqueuses dans lesquelles les acini muqueux sont plus nombreux, comme les glandes sublinguales.⁽²⁵⁾

Nous avons vu plus haut que le produit des glandes salivaires est la salive. Les aliments secs, acides, amers, et sucrés ont une grande influence sur cette sécrétion, ce qui lui permet d'exercer ses nombreuses actions d'une façon plus intense; 1) *Action mécanique* de lavage par le courant constant; 2) *action physique* de dissolution permettant l'entraînement hors de la cavité buccale; 3) *action chimique*

de neutralisation; 4) *action biologique* bactéricide. Quelques dents sont gardées saines seulement par le courant de la salive.⁽²⁷⁾

D'après H. Edgar Luca, du Danemark, le principe de l'obstruction de l'invasion organique par la disposition du calcium de la salive guidée par une action enzymatique est semblable à la protection contre la carie par la fluorine.⁽²⁸⁾ La salive est le facteur endogène le moins connu et le plus mystérieux. Elle nettoie les débris alimentaires, qui pourraient adhérer aux dents, neutralise les acides formées dans la bouche par le calcium (constituant constant de la salive), reminéralise l'émail en absorbant l'acide tricalcique qui normalement a tendance à précipiter, enraye la croissance bactérienne par la présence du leucocyte salivaire, et inactive certaines bactéries par la présence d'anticorps spécifiques.⁽²⁹⁾

b) *Glandes lymphatiques* Le système lymphatique est l'annexe du système veineux. Il déverse le chyle et la lymphe dans le système veineux aux sous-clavières droite et gauche. Il est formé de glandes, de ganglions et de nombreux vaisseaux qui convergent vers deux troncs principaux: le canal thoracique et la grande veine lymphatique. C'est la pression sanguine qui fait circuler la lymphe, aidée par la contraction des fibres musculaires sous l'influence de la "vis-à-tergo".

Les glandes lymphatiques sont situées sur le trajet des vaisseaux lymphatiques. Au point de vue structure, on y rencontre une capsule fibreuse, des septas et une substance corticale composée de nodules lymphoïdes, du sinus lymphatique marginal et du sinus radiaire. Enfin une substance médullaire composée de cordons médullaires et d'espaces lymphatiques.

Il y a une circulation toute particulière dans les glandes lymphatiques qu'il serait trop long de décrire. Elles ont un rôle lymphopoiétique. Ce sont des organes de défense par la fabrication de lymphocytes, de monocytes, et de cellules du tissu réticulé.

6) *Vaisseaux sanguins*: Dans la cavité buccale, on ne rencontre pas d'artère d'importance. Nous avons surtout des arté-

rioles, des capillaires artériels, des capillaires veineux, des veinules et des veines. Ces vaisseaux sont formés de trois tuniques ou enveloppes appelées: interna, média, et externa. Dans cette dernière surtout, on y rencontre des "vasa-vasorum" et des "nervi-vasorum". Tous les vaisseaux que nous avons énumérés plus haut laissent passer le sang destiné à nourrir l'organisme et à le défendre en cas d'infection. Dans ce dernier cas, les leucocytes du sang doués du mouvement amiboïde diapédésent et par les polymorphonucléaires réalisent la phagocytose. Les monocytes nettoient la place et jouent le rôle de vidangeurs en absorbant les corps morts.

Toute partie étrangère: microbes, germes, bulles d'air, débris, ou cellules mortes sont des antigènes. Les leucocytes du sang sont capables d'incorporer dans leur cytoplasme des parties étrangères, par conséquent, des antigènes, et sécrètent une substance capable de lutter contre eux qu'on appelle: anticorps. Le sang joue donc un grand rôle dans les infections de toute espèce.⁽³⁰⁾

7) *Innervation*: La cellule nerveuse, ou neurone, est l'élément fondamental du système nerveux. Cette cellule nerveuse est continuellement en relation avec une autre par des prolongements. Les contacts sont appelés synapses et les prolongements s'appellent neurites. Les neurites peuvent s'appeler dendrites, s'ils sont courts, ou axones, s'ils sont longs. Pour chaque cellule nerveuse, ou neurone, il y a un axone, et plusieurs dendrites. Un nerf est un ensemble de neurites réunis en un faisceau ou en plusieurs. Dans la cavité buccale, les terminaisons nerveuses, sensorielles et motrices, sont plus sensibles que le tronc nerveux lui-même. Le trijumeau, ou cinquième paire de nerfs crâniens, joue un grand rôle dans la cavité buccale. C'est lui qui voit principalement à l'innervation de toutes les parties de la cavité buccale. Il serait beaucoup trop long d'en donner ici la description.⁽³¹⁾

Les facteurs susceptibles d'affecter l'économie des différents tissus et organes de la cavité buccale sont:

1) *les agents infectieux*, comme les bac-

téries, ordinairement présents dans la bouche, les bactéries spécifiques, causant l'angine de Vincent, la tuberculose, la syphilis, l'aphte, l'herpès labial, la leucoplasie et aussi la carie;

2) *les agents traumatiques* comme l'occlusion anormale, les blessures aux muqueuses, les opérations dentaires et les fractures;

3) *les agents physiques et chimiques* comme les bonbons, les aliments amers, acides et sucrés, les caustiques et les tumeurs de la cavité buccale.

La grande variété de micro-organismes présents dans chaque cavité buccale fait que certains d'entre eux sont toujours prêts pour l'invasion. Les caries dentaires produisent certains microbes qui sont des plages de staphylocoques dorés, les mêmes qui causent ordinairement le charbon et l'ostéomyélite. Ils possèdent des propriétés envahissantes et nécrosantes des tissus. Ils produisent aussi de l'acide.⁽³²⁾

La carie dentaire, d'après Bunting, est une destruction des substances dures de la dent par un procédé qui est à son stage initial une décalcification par des acides. Ces acides actifs dans la carie dentaire sont localisés, concentrés en certains endroits des surfaces dentaires. Elle se produit le plus souvent dans les points et fissures buccaux et linguaux de la dent, aux endroits où il peut y avoir présence de corps étrangers. Elle ne se produit pas sur les surfaces dures et polies de l'émail qui sont souvent nettoyées. Toutes les lésions primitives de la carie produisent des bactéries formatrices d'acide pouvant produire et vivre dans des acides d'un potentiel suffisant pour endommager l'émail.⁽³³⁾

Parmi la grande variété de micro-organismes ordinairement présents dans la cavité buccale, mentionnons le lactobacille acidophile. Il agit spécialement sur les sucres formant ainsi l'acide lactique capable de survivre à ses propres produits. Le lacto-bacille se rencontre pratiquement dans chaque carie active. C'est pourquoi on exclue généralement les sucres sous toute ses formes pour diminuer la carie dentaire, étant donné la corrélation définie qui existe entre le sucre de la diète,

la présence de lacto-bacilles et la fréquence de carie dentaire.⁽³⁴⁾

L'infection de Vincent de la gencive est une inflammation destructive aiguë ou sub-aiguë du bord gingival et de la papille inter-dentaire. Elle est aussi appelée gingivite ulcéraire nécrosante. Les deux types de micro-organismes en cause dans cette maladie sont le spirochète et un bacille fusiforme. Le spirochète est classifié comme étant la "treponema Vincenti" ou "Borrelia Vincenti". La pathogénécité de ces microbes est douteuse. On les trouve apparemment dans les bouches saines. Il est difficile de savoir pourquoi les micro-organismes sont présents pratiquement dans chaque bouche, et qu'à un moment donné ils produisent de graves symptômes cliniques et qu'à d'autres moments ils soient absolument inoffensifs. Il semble qu'une condition traumatique, métabolique ou infectieuse réduit la résistance des tissus et que ces micro-organismes demeurent pathogènes, envahissent et détruisent les tissus. Le seul moyen de défense contre cette infection est une hygiène buccale parfaite et une bonne diète. En plus l'état général de la personne agit fortement.⁽³⁵⁾ Dans le cas de l'Herpès labial causé par un virus filtrable, des aphtes, lésions aiguës de la muqueuse buccale, de la leucoplasie, inflammation chronique de la muqueuse buccale, les moyens de défense sont les mêmes que dans le cas de l'Angine de Vincent et aideront l'individu à lutter contre les micro-organismes en cause.

La périodontite traumatique aigue est la réaction du tissu péri-dentaire à une lésion traumatique. Les moyens de défense contre cette maladie est d'éviter un coup, une chute sur la face ou les dents, les blessures durant les opérations dentaires et la trop grande pression occlusale.

La périodontite chronique est causée par un médicament introduit dans le canal pulpaire lors d'un traitement de canal et qui a pénétré au delà du foramen apical. Les réactions dépendent des propriétés propres au médicament qui l'a causée, ainsi il peut en résulter une inflammation bénigne ou une grande destruction tissulaire.

On trouve des bactéries en grande quantité dans le canal, mais le tissu de granulation et le kyste attachés à l'apex de certaines dents peuvent être trouvés exempts de micro-organismes. Le granulome dentaire est un endroit où sont détruites les bactéries. Les bactéries qui vivent et croissent dans le canal tendent à envahir le foramen apical et les tissus mous. L'organisme réagit en établissant une barrière de défense de tissu de granulation qui détruit les microbes à mesure qu'ils sortent du canal et les empêche d'envahir les tissus périodontaires. Ce moyen de défense est suffisant et c'est l'explication à l'absence relative d'infection généralisée d'origine dentaire. Si cette défense s'affaiblit, on trouve des bactéries en grande quantité dans le granulome.⁽³⁰⁾ Dans la cavité buccale, nous rencontrons aussi des tumeurs bénignes ou malignes selon leur origine différente. Les tumeurs d'origine épithéliale se nomment papillômes et carcinômes; celles qui sont d'origine conjonctive sont le fibrome, l'épulis, le sarcome. D'autres sont d'origine dentaire comme l'odontome et l'adamantinome. Il y a aussi les tumeurs et les kystes dermoïdes contenant des dents. Leur résistance est propre à l'état général et non à la cavité buccale en particulier.

Le kyste muqueux est un petit sac qui croît dans la membrane muqueuse des lèvres, aux joues. Il résulte de l'oblitération du canal d'une petite glande muqueuse de la muqueuse buccale. Le seul traitement est l'ablation. On le rencontre spécialement aux endroits où la muqueuse est sujette à de légères blessures, comme la lèvre inférieure.

La grenouillette est un kyste rétentif de la glande sublinguale. On la rencontre sous la langue, à l'ouverture du canal sublingual. Elle est causée par tout ce qui peut causer l'obstruction du courant de la salive dans le canal sub-lingual, comme les blessures ou l'inflammation du plancher de la bouche. Il s'agit pour ce qui est du traitement de favoriser l'écoulement de la salive par une incision.⁽³⁷⁾

La cavité buccale, comme nous l'avons vu, est composée d'organes et de tissus différents; par conséquent, ceux-ci réagis-

sant différemment en face d'une infection. Grâce à la membrane muqueuse qui recouvre les tissus de la cavité buccale, les micro-organismes sont empêchés de pénétrer dans les tissus sous-jacents. Tant que cette protection reste complète, ces mêmes micro-organismes sont séparés dans la cavité buccale et dans le tube digestif et sont d'une signification nulle pour la santé en général. Normalement, la flore bactérienne buccale est restreinte et les saprophytes sont complètement inoffensifs pour le corps en général. Dans le cas d'une mauvaise hygiène buccale, les débris de nourriture, retenus autour des dents, produisent de la fermentation, et, par le fait même, la flore bactérienne se trouve sensiblement accrue. Dans ce cas, les micro-organismes peuvent atteindre un haut degré de virulence et la fermentation rapide et progressive fait passer d'une flore bactérienne normale à une anormale avec une croissance trop grande des microbes pouvant mettre en danger les dents, les muqueuses protectrices de la bouche et envahir par la suite les tissus sous-jacents. La résistance des tissus en général explique donc la présence d'une infection et son action.

La nature a pourvu la cavité buccale d'une doublure complète qui empêche l'entrée des micro-organismes dans les tissus sous-jacents. C'est la membrane muqueuse. C'est seulement par une blessure à cette membrane muqueuse ou aux dents que le micro-organisme peut passer dans la circulation générale et aux tissus sous-jacents. Dans ce cas, il rencontre une autre barrière de défense qui comprend la phagocytose, la bactériolyse, les antitoxines, le tissu de granulation et autres moyens généraux de défense. Par ces diverses réactions, les tissus cherchent à vaincre ou à détruire les agents microbiens, ou à former une barrière protectrice de tissu de granulation pour limiter leur action envahissante, et à les confiner à un endroit particulier. Ce tissu de granulation est formé de leucocytes et de lymphocytes réunis en un point particulier sous l'influence d'un véhicule chimique et de nombreux vaisseaux néoformés, progressant rapidement, apportant ainsi une riche quantité de sang.

Par la suite, si les tissus parviennent à vaincre l'invasion microbienne, ce tissu de granulation devient une barrière de défense de plus par la multiplication des fibres conjonctives jusqu'à ce que l'agent infectieux soit enfermé dans un sac de tissu fibreux.⁽³⁸⁾

Toute la plaie se trouve recouverte de petites saillies ou bourgeons charnus. A ce stade, ce dernier présente les couches suivantes: 1) couche fibrineuse avec des polynucléaires morts; 2) couche exudative; 3) couche exudative protectrice; 4) couche cicatricielle profonde.⁽³⁹⁾

Quand ceci se produit, les bactéries sont vaincues efficacement, bien que leurs toxines puissent s'échapper en quantité limitée par la voie des capillaires, qui pénètrent ou sortent du sac. La réaction des tissus n'est pas toujours totale. Elle dépend en grande partie de la santé et de l'activité générale de l'individu. Et lorsque celles-ci sont bonnes, la réaction locale à l'infection est plus efficace que lorsque la vitalité est faible. Puis comme les réactions locales des tissus correspondent à une lésion microbienne, le genre de réaction, qui en résulte, dépend du type d'organisme envahisseur. Dans le cas d'infection aiguë, purulente, la réaction des tissus est grande et la plupart du temps suffisante pour contrôler et vaincre l'agent causal; s'il s'agit d'une infection streptococcique non purulente, les réactions de défense locale sont plutôt minimes et insuffisantes pour empêcher l'invasion des micro-organismes dans les tissus sous-jacents et la circulation. C'est ce dernier cas qui est le plus redoutable, d'autant plus que même l'individu de santé normale est souvent incapable de la combattre avec succès et se trouve par conséquent victime de l'agent microbien.

En considérant l'infection buccale en rapport avec la maladie du système en général, il faut reconnaître que les infections banales et non purulentes sont les plus redoutables, non seulement à cause de l'incapacité des tissus à les combattre mais à cause de leur pénétration souvent inaperçue. Il s'agit de diriger l'attention sur les types de micro-organismes qui causent les infections, lorsqu'il s'agit de dentisterie préventive.⁽⁴⁰⁾

De toutes ces constatations, il découle que la cavité buccale est une partie de ce grand tout qu'est le corps humain. Par elle-même, ses moyens de résistance et de défense sont bien inadéquats. L'état de santé et la résistance générale de l'individu sont encore les meilleurs garanties contre toute attaque quelle qu'elle soit de la cavité buccale. Une fois de plus, nous avons sous les yeux la preuve éclatante que dans le moindre traitement dentaire, notre attention ne doit pas se borner localement, mais au contraire, faire la relation avec les autres éléments de la cavité buccale et finalement avec l'état de santé générale de l'individu. Trop souvent, les sciences médicales de base, nécessaires au dentiste, ne semblent pas justifiées et appréciées, mais heureusement d'année en année, elles occupent une plus grande place dans la pratique dentaire, et elles apportent d'immenses secours à qui veut les utiliser sagement.

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dans une usine. Cette publication a été conçue pour être comprise par les dentistes et les industriels.

"Une formule de santé dentaire", anglais et français. Pamphlet exposant les préliminaires de l'organisation d'un plan raisonné de santé dentaire publique.

"Exposé des principes de santé dentaire", anglais et français. Carte joliment imprimée contenant la politique de l'Association au sujet de l'organisation de l'hygiène dentaire publique. Le texte est élaboré d'une façon simple, pour qu'il soit compris facilement du public.

"Guide d'hygiène dentaire pour les instituteurs et les parents", anglais seulement. Facicule exposant les grands principes d'hygiène dentaire.

"Vos dents — votre santé", anglais seulement. Tiré-à-part d'un discours prononcé par le Dr Ellis, doyen de la Faculté dentaire de l'Université de Toronto, au sujet des problèmes dentaires envisagés par le public.

"Champions", anglais seulement. L'histoire illustrée de Pete O'Brien et de ses aventures en hygiène dentaire.

"Existence sanitaire", anglais seulement. Facicule renfermant des questions et réponses souvent discutées au sujet d'hygiène dentaire. Exposé simple en termes faciles.

"Carte en diagrammes", (36" x 30"), carte montrant en sections longitudinales trois dents dont la constitution est illustrée. Les états physiologiques et pathologiques y sont représentés. Cette carte est recommandée pour l'enseignement.



PAGES EDITORIALES

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Rapport du rédacteur de la section française du Journal de l'Association Dentaire Canadienne au Bureau des Gouverneurs de l'A.D.C., le 19 septembre 1951

C'est un grand honneur et un vif plaisir pour le rédacteur de la section française du Journal de notre Association de soumettre son rapport au Bureau des Gouverneurs de l'Association Dentaire Canadienne.

Depuis qu'on m'a confié la tâche de veiller à la section française, j'ai toujours réclamé un plus grand nombre de pages pour la publication de matériel scientifique écrit en français. Depuis environ un an, deux pages supplémentaires ont été mises à notre disposition tous les mois, excepté en deux occasions où on s'est servi de ces deux pages pour énumérer la liste des officiers de notre Association pour que les membres sachent à qui s'adresser. Cette addition nous a été d'un grand secours et constitue une preuve de la considération des dirigeants de l'A.D.C. en faveur de notre partie du Journal. Mais, à l'instar de Caton l'Ancien, qui dans la Rome ancienne, a toujours fini ses discours durant une vingtaine d'années par ces mots célèbres: "Delenda est Carthago", je mentionnerai, chaque année, dans mes rapports la nécessité d'obtenir plus d'espace pour la section française du Journal.

L'an dernier, je soulignais l'avantage de traduire les articles dans la langue de l'autre groupe ethnique du pays, sous forme de résumés. La section anglaise, à plusieurs reprises, a suivi cette suggestion et a inséré des résumés français de ses communications. Cette façon de faire a rendu service aux lecteurs de langue française, leur permettant de mieux saisir la substance des articles. Ces traductions confèrent au Journal un caractère plus universel et donnent plus de matière à lire aux dentistes français de ce pays et d'Europe; car le français est encore la langue la plus répandue dans les milieux in-

tellectuels européens. Plusieurs revues étrangères offrent de ces traductions à leurs abonnés, souvent dans quatre ou cinq langues.

La section française ne peut se vanter des mêmes améliorations; nous avons fait ainsi bénéficier nos confrères de langue anglaise qu'en de bien rares occasions. Nous nous proposons de suivre cette coutume aussitôt que possible.

Il faut réaliser les difficultés qui président à la publication d'articles scientifiques de langue française, ici, au Canada. Le nombre des dentistes d'origine française est restreint, si on le compare à celui des confrères anglosaxons d'Amérique du Nord.

Dans notre pays, nous n'avons qu'une Faculté dentaire et les gens de langue anglaise en ont quatre; je passe sous silence les écoles dentaires des Etats-Unis, qui sont susceptibles de fournir des articles à notre Journal. Quelques dentistes de chez nous vont suivre des cours ou poursuivent des recherches dans des centres américains; ces confrères écrivent des thèses et préparent des rapports rédigés en langue anglaise. Ces écrits peuvent difficilement se traduire en français, et ne peuvent être utilisés par la section française de notre Journal. De plus, les communications qui nous parviennent d'Europe, soit de France, de Belgique ou de Suisse, ne peuvent guère aider la recherche, l'enseignement ou la pratique canadienne, parce que les termes ne sont pas tout à fait les nôtres et parce que la conception qui les anime est différente de l'attitude américaine, vis-à-vis la chose dentaire. Cependant, nous restons optimistes; le matériel digne d'être publié est plus abondant que dans le passé et nous entretenons beaucoup d'espoir pour la littérature canadienne de langue française.

Le congrès national des dentistes canadiens aura lieu dans quelques jours, dans la splendide capitale de notre pays. La publicité destinée aux confrères de langue française a été quelque peu négligée dans le Journal, tant dans son élaboration que dans sa réalisation. Constatant l'absence de toute publicité destinée à la section française du Journal, le rédacteur a écrit en juin au Comité de publicité du congrès pour lui souligner le fait. Loin de moi l'intention de critiquer qui que ce soit pour cet oubli. Tous ceux qui ont travaillé à l'organisation du Congrès ont fourni leurs meilleurs efforts pour réaliser un succès sans précédent. En juillet, un peu plus d'une page du journal a été consacrée à la publicité française, grâce aux bons offices du Dr Tom Marshall, qui, après avoir obtenu autorisation, a retiré, à la dernière minute, une partie du texte paginé, pour insérer le programme traduit en français; cette mise en page échappait ainsi au contrôle du préposé à la rédaction de cette section du Journal.

Pour obvier à ces lacunes pour les congrès à venir, surtout quand ces congrès ont lieu dans l'est du pays, je proposerais qu'on adjoigne au Comité de Publicité un dentiste de langue française, qui verrait à faire parvenir au rédacteur la publicité nécessaire. De plus, ce confrère choisirait le genre de publicité le plus conforme aux circonstances pour attirer les dentistes de langue française à nos réunions.

Une des intentions qui ont présidé à l'organisation du Journal est celle de faire connaître aux membres les activités de notre Association. Depuis qu'on nous a confié la rédaction de la section du Journal, nous avons essayé de tenir les dentistes de langue française renseignés sur les réalisations de notre Association nationale. Nous sommes d'avis que nous avons réussi à éveiller l'intérêt de nos confrères en publiant, mois après mois, les nouvelles qui nous parviennent du bureau du secrétaire. Nos confrères de langue française sont plus curieux et mieux informés des choses de l'Association qu'ils ne l'étaient il y a cinq ans. Ainsi nous avons l'impression de favoriser l'unité nationale et un entendement plus complet entre les deux grandes races du Canada.

Il est temps, je crois, d'entreprendre quelquechose pour les étudiants de nos cinq facultés dentaires canadiennes. Jusqu'à maintenant, le seul contact de l'Association avec les étudiants se fait par le Concours du Mémorial de Guerre. Nous devrions nous occuper davantage de nos futurs confrères et les préparer à devenir des membres actifs et renseignés de notre Association. Je verrais d'un bon oeil, l'organisation d'une association qui grouperait les étudiants du pays, sous l'égide de l'Association Dentaire Canadienne. La teneur de ce rapport ne me permet pas d'énumérer tous les avantages à tirer d'une association d'étudiants du genre. Permettez-moi de demander à l'Exécutif d'étudier la question de grouper les étudiants en chirurgie dentaire du Canada en association nationale sous la direction de l'A.D.C.

Je ne voudrais pas terminer mon rapport sans mentionner la mort du Dr Alcide Thibodeau, qui a été durant de nombreuses années le rédacteur de la section française de Journal. Le Dr Thibodeau était un homme d'un savoir extraordinaire et ses écrits, tant sur des sujets scientifiques que sur des questions d'organisation dentaire, demeureront longtemps dans l'appréciation des confrères de sa génération comme des pièces de haute science et de forme excellente. A mon titre de successeur du Dr Thibodeau, permettez-moi de lui rendre un tribut d'hommages pour le bon travail qu'il a accompli au bénéfice de l'Association.

En terminant ce rapport, permettez-moi une autre suggestion. L'expression "Comité de Publication" est trop vaste et imprécise; elle devrait être changée et remplacée par "Comité du Journal". D'autres comités de l'A.D.C. préparent des publications et notre comité n'a rien à y voir.

Mes derniers mots en seront de remerciements à l'égard des membres du Comité de Publication, du gérant d'affaires, du Dr Garvin et des rédacteurs provinciaux pour la façon agréable dont ils ont toujours mené les discussions au sujet du Journal.

Respectueusement soumis,

Le rédacteur français du journal de l'A.D.C.,

GERARD DE MONTIGNY



Photo copyright Clifford R. Kopas.

Formal dress. Indian ladies of the Bella Coola valley dressed thus to stage dances in celebration of V-E Day.

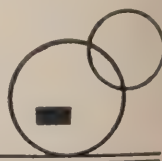
"Socrates taught for forty years, Plato for fifty, Aristotle for forty, and Jesus for only three; yet those three years infinitely transcend in influence the combined one hundred and thirty years of teaching of Socrates, Plato, and Aristotle, three of the greatest men of all antiquity. Jesus painted no pictures; yet the paintings of Raphael, Michelangelo, and Leonardo da Vinci received their inspiration from Him. Jesus wrote no poetry; but Dante, Milton, and scores of the world's greatest poets were inspired by Him. Jesus composed no music; still Haydn, Handel, Beethoven, Bach, and Mendelssohn reached their highest perfection of melody in the hymns, symphonies, and oratorios written in His praise. Thus every sphere of human greatness has been incomparably enriched by the humble carpenter of Nazareth."



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Dental Caries

11. Evaluation of the Current Methods of Prevention of Dental Caries

by GORDON NIKIFORUK, D.D.S., M.Sc., Toronto, Ontario

THE reader is referred to Part 1, in this series of publications, for a discussion of the aetiological factors of dental caries. A summary of the factors associated with the aetiology of dental caries, as discussed in Part 1, follows below.

There are four basic requisites for the initiation of a caries lesion: bacteria, substrate (exogenous), tooth and dental plaque. The disease of dental caries involves two processes:

1. Primary process—acid decalcification of the inorganic component of the tooth;
2. Secondary process—proteolysis of the organic matter of the tooth.

The decalcification is caused by the acids resulting from bacterial-enzymatic action on a readily fermentible, concentrated carbohydrate substrate. Bacterial action is localized to the surface of the tooth, in areas of predilection, by means of organic plaques. The aetiological factors and the mechanism is illustrated in Figure 1.

CLASSIFICATION FOR THE PREVENTION OF DENTAL CARIES

The four basic requisites for the initiation of a caries lesion: bacteria, suitable substrate, tooth and plaque form the basis for a classification of the principles involved in the prevention of dental caries (Table 1). The methods and agents introduced to prevent

dental caries are to be evaluated on the basis of efficacy and mechanism of action.

AN INTERFERENCE WITH BACTERIAL ACTIVITY

Theoretically, substances which destroy bacteria, interfere with their enzymatic mechanism or neutralize their products of metabolism (organic acids) should be effective in reducing caries activity. It should be noted that, in the final analysis, any compound which destroys bacteria or stops their reproduction interferes with bacterial enzymatic activity. Thus penicillin, streptomycin, and fluorides in proper concentrations are substances that all interfere with enzymatic activity. It seems superfluous to divide these compounds into enzyme poisons and antibacterial agents.

Ammoniated Dentifrices

Experiments with saliva from caries free individuals led Kesel et al (1947) to conclude that "caries immune" individuals would produce ammonia at a faster rate than would the salivas from caries susceptible people. They also showed that ammonia nitrogen, developed in human saliva by natural processes, has the ability to inhibit the growth of *L. acidophilus*. A dentifrice was developed containing 5 per cent dibasic ammonium phosphate and 3 per

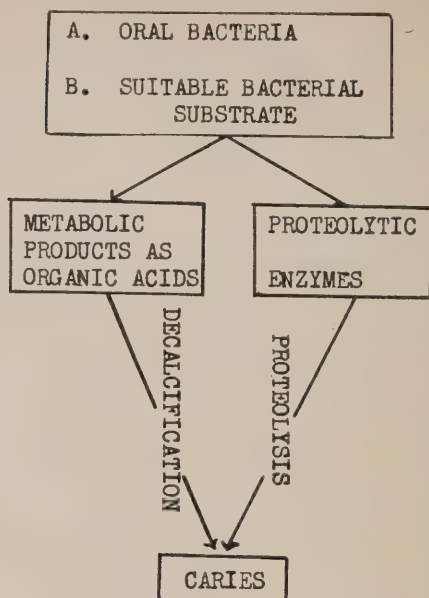
1. EXCITING FACTORS IN THE
CARIES PROCESS2. METHODS BY WHICH BACTERIA
CAN DISINTEGRATE TOOTH
SUBSTANCE3. MECHANISM OF THE CARIES
PROCESS

FIGURE 1. Mechanism of the Caries Process.

TABLE 1

Classification of Methods and Mechanism of Prevention of Dental Caries

Requisites for Development of Dental Caries	Method of Prevention of Dental Caries
1. Bacteria	a. Interference with bacterial metabolism by the use of enzyme inhibitors b. Neutralize bacterial metabolites
2. Suitable substrate for bacteria	a. Elimination of substrate by dietary regulation or oral hygiene b. Prevention of utilization of substrate by bacteria through incorporation, in substrate, of enzyme inhibitors
3. Tooth and its environment	a. Alteration of the chemical composition of the tooth, as with fluorides b. Improvement of tooth structure (morphology) c. Utilize the saliva, as a vehicle, to carry caries inhibiting agents
4. Plaque	a. Utilization of the properties of the dental plaque to retain bacterial anti-metabolites in the mouth for a long period of time in sufficient concentrations

cent urea. Preliminary work showed that these materials reduced the lactobacilli in saliva.

A report of a clinical investigation, from the University of Illinois, designed to test the efficacy of ammoniated dentifrices suggests that the agent is mildly effective (Kerr, 1951). The results of the two year study involving 716 grade school children in Peoria showed a reduction of approximately 20 per cent in caries activity in children

by supervised use of a dibasic ammonium phosphate and urea dentifrice. The non-ammoniated dentifrice was less effective and is reported to have resulted in a 9.3 per cent decrease. Results are based on a comparison with a control group whose brushing was not supervised. This suggests that ammoniated dentifrices are 10 per cent more effective in reducing dental caries than are non-ammoniated dentifrices.

The conditions for this study were

rather stringent. The subjects, used in this study, were 10 to 11 years. This represents a period of high susceptibility to dental decay. The time of tooth brushing was from 15 minutes to one hour after eating which is not as effective as immediate tooth brushing. A questionnaire revealed that 105 of the 301 children who served as a control used ammoniated dentifrices.

Mechanism of Action of Ammoniated Compounds

The mechanism by which the dibasic ammonium phosphate-urea dentifrice exerts its action is unknown. The original study by Kesel et al (1947) reported that the presence of small concentrations of ammonium ions inhibited the growth of lactobacilli. Kerchheimer and Douglas (1950) were unable to substantiate the work of the Kesel group. Any effective action that the dentifrice may have in reducing caries, they felt, must be explained on some basis other than inhibition of lactobacilli by ammonium ions.

Pearlman (1949) studied the action of ammonia salts on *L. acidophilus*. Inhibitory effects were obtained if the pH of the buffer used was between 6 and 8. Ammonia salts were not significantly more toxic than the salts of potassium or sodium.

It is interesting to note that Baldwin (1948) divides excretion of end products of nitrogenous metabolism by various species into three groups: ammonotelic, ureotelic and uricoletic. Ammonia is excreted only by animals living in water since here they possess at their disposal a vast reservoir into which they can discharge waste ammonia, a diffusible substance, without fear of being poisoned by their own excrement. Ammonia is a very toxic substance. Sumner injected urease into rabbits, which acted upon blood urea, and which caused death when the concentration of ammonia was about 1 part in 20,000. Death occurred not due to any change in pH but rather due to some specific property of the ammonium ion. It is probable that the animals died from the enzyme itself, since

injection of urease into birds, the blood of which does not contain urea, did not result in death. Future experiments which will attempt to explain the mechanism of toxicity of ammonium ions should prove very interesting.

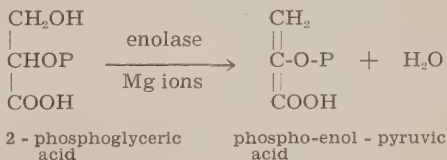
Fluorides:

It is generally accepted that fluorides in drinking water (1 p.p.m.) or applied topically to tooth surfaces (2 per cent NaF) reduce dental decay approximately 40 per cent. (Knutson et al, 1944; Knutson, 1949; Jordan, W. A. et al 1946; Dean, H. T. 1946).

Effect of Fluorides on Bacterial Enzymes:

The action of fluoride appears to involve both the tooth structure and the attacking bacteria. The incorporation of the fluoride ion into enamel and dentine with the production of a less soluble enamel apatite is discussed under a subsequent heading. At present we shall limit our discussion to the effect of the fluoride ion on bacterial metabolism.

Fluoride ion inhibits several enzymes and is capable of inhibiting glycolysis (fermentation of sugars by bacteria). The classical experiments of Warburg (1942) showed that fluoride inhibits the enzyme enolase. Enolase catalyzes the following reaction in the glycolytic cycle:



In the presence of magnesium ion and inorganic phosphate, fluoride forms a magnesium fluorophosphate complex which inhibits the above reaction. This inhibition is not accomplished when the concentration of fluoride is as low as 1.5 p.p.m. Thus, it would seem that the enzyme inhibiting properties of fluoride are the less important of the mechanisms by which fluoride reduces caries (Bibby, 1947). However, it must not be overlooked that, fluoride once it is built

into the tooth may exert a local enzyme-inhibiting effect by being dissolved, during an acid attack, in concentrations great enough to inhibit glycolysis. Again, it is known that many proteins have a strong binding capacity for the fluoride ion. The possibility of adsorption of the fluoride ion from drinking water into the dental plaque has not been investigated.

It is important to differentiate between the soluble fluoride ion as it exists in a solution of sodium fluoride and the insoluble fluoride in the form of calcium fluoride or fluoroapatite. The latter is inactive as long as it is fixed in a solid form. Fluoride interferes with bacterial action only if it is in a soluble, ionic form.

Penicillin:

Investigations to determine the effect of penicillin on caries activity have shown that penicillin, when administered in drinking water, inhibits the production of dental caries in rats (McClure, 1946; Hill, 1950). Zander (1950) reported on the effect of a penicillin dentifrice (500 units in 1 gram) in a study conducted on 235 children ranging from 6 to 14 years. A separate group of 174 children in the school served as a control. The over-all caries reduction in all teeth, including the primary, for the second year of the study in terms of total new decayed or filled surfaces since the start of year was 53.8 per cent.

Sensitivity studies were conducted by Zander (1950) on 4,480 subjects. One case of black tongue disappeared after discontinuing the penicillin powder; six patients or 0.13 per cent, developed a rash. Three of the five have had previous penicillin injections and they had been sensitive to penicillin. The percentage of reactions to the penicillin tooth powder is much less than is usually found following injections.

A recent report by Fitzgerald and Zander (1950) dealing with the effects of penicillin dentifrice on oral lactobacilli showed no significant differences when compared with the control. This finding is very interesting in view of

the fact that the lactobacilli organisms are often indicated as the specific bacteria causing dental caries. The incidence of penicillin-fast lactobacilli was not greater in the individuals using the penicillin dentifrice.

A statistically significant reduction in the dental caries activity, by the use of penicillin dentifrice appears to be possible. This indicates that penicillin alters the oral flora, but the nature of the alteration remains obscure. The studies of Zander do not negate the possibility of certain organisms developing a resistance to penicillin, even at the low concentrations used. The danger of infections by penicillin-fast organisms is too great a disadvantage to merit the use of penicillin dentifrices as a mass caries preventive agent. However, the use of an agent similar to penicillin in its caries reducing properties, but not in such universal use as an antibiotic may serve as a promising method of preventing caries.

Chlorophyll Dentifrices:

Chlorophyll, the green colouring of plants, is known primarily for its association with photosynthesis—a process whereby green plants convert the energy of the sun's rays into stored food energy. Certain derivatives of chlorophyll have been incorporated into a dentifrice and claims made for its caries reducing properties and also for its beneficial effect in promotion of healing of certain tissues and elimination of mouth odours (Rapp, 1949).

The claims for the ability of chlorophyll dentifrice to reduce caries is based on its ability to inhibit lactobacillus growth in humans (Rapp, 1949). Rapp reported that 96 per cent of group 1 who used chlorophyll tooth paste had negative lactobacillus counts at the end of 26 weeks. A second group who used a plain tooth paste, plus a chlorophyll mouth wash, had a less-rapid reduction in counts but at the end of 26 weeks, 100 per cent had negative lactobacilli counts. The control group had the customary variations, with counts about the same as at the start of the experiment.

This work needs verification from other laboratories. It must also be remembered, that in the final analysis caries preventive agents must be assessed by their ability to reduce carious lesions in humans and not on the basis of its effect upon a dubious caries activity test. It will probably require several years before the full implications of the claims made for chlorophyll or penicillin dentifrices are properly evaluated.

B. RESTRICTION OF SUBSTRATE FOR BACTERIA

Numerous experiments have proved, beyond much doubt, that readily fermentible carbohydrates, such as sucrose, are an important aetiological factor in the production of dental caries (Zepplin et al, 1950). Sugar exerts its harmful effect by serving as a substrate for the glycolytic bacteria found in the mouth. The fact that tube-fed rats, susceptible to dental caries, do not develop carious lesions indicates that the effect of sugar is local (Kite, 1950). It seems possible to reduce dental caries by restriction of sugar in diets. (Becks, 1944, 1950; Jay, 1947). During World War II, the marked reduction in caries activity of many countries directly paralleled the availability of refined sugars (Krohn and Pederson, 1945; Sognnaes, 1948; Toverud, 1949).

It should be emphasized that, from a caries standpoint, the total quantity of carbohydrates consumed is not the sole determining factor. The factors that determine the effect of carbohydrates on the dental caries process are: type of carbohydrate eaten, concentration of the carbohydrate, time and frequency of eating.

Only glucose, sucrose (ordinary sugar) and fructose, of the commonly used carbohydrates, are fermented by oral bacteria at a very rapid rate. Starches may be degraded, but with less speed. This may explain why the people in Italy, whose total carbohydrate consumption is less than that of the people in this continent, have less dental caries (Schour and Massler, 1947).

The concentration of the sugar is important. There is a growing belief that for the initiation of dental caries a high concentration of sugar is necessary. The high concentration of sugar permits a more intense acid attack which may overcome the natural defences of the plaque. Again, high concentrations of sugar may serve to introduce an osmotic pressure differential between the surface of tooth and the pulp (for an evaluation of this concept the reader is referred to part 1 of this paper—previous issue of the J.C.D.A.).

The number of times food with a high sugar content is consumed, determines the number of acid attacks. Thus, eating habits that consist of soda fountain sweet snacks, the all-day sucker, or the perpetual cookie in the mouth are particularly detrimental to good dental health.

Nutrition and Dental Caries

Reduction of sugar consumption in the form of candies, cake, pastry, soft drinks, chocolates, etc. is recommended not only for the purpose of sound dental health but rather on the basis of a sound nutritional program. Sugar supplies nothing else but calories. A nutrition program that adheres to the Canada Food Rules, which emphasizes reduction of refined sweet foods, is economically more sound than the one practiced by most Canadian families. A properly planned nutrition program covers all special needs. There is no need for a special nutrition program for dental health. (McHenry, 1951).

It is well to adopt a more positive approach, with the patients, regarding nutrition and dental health. Restriction of readily fermentible carbohydrate must be stressed, and suggestions made for food items that may serve as substitutes. It appears particularly desirous to substitute refined carbohydrates by protein foods. The exact relationship between protein metabolism and dental caries is not known. However, the possibility that a high protein diet may beneficially influence dental caries is theoretically real.

Apart from the relationship that

exists between the consumption of refined carbohydrates and the initiation of dental caries, other nutritional factors may influence the morphological and chemical constitution of a tooth, during its development, in such a way as to make it more or less susceptible to dental caries. Human studies indicate a relation of calcium, vitamin D (Mellanby, 1937) and fluoride on tooth structure and substance (Armstrong and Brekhus, 1937). More investigation is essential for a proper evaluation of the influence of nutrition on caries susceptibility.

Oral Hygiene and Caries Prevention:

Until recently there has been no experimental evidence to support the hypothesis that good oral hygiene reduces caries activity. It is indeed strange that a practice so prevalent, and inculcated in every child at an early age, should never have been subjected to experimental analysis to determine its efficacy other than to serve a cosmetic function.

Fosdick, (1950) reported on the efficacy of brushing teeth, immediately after meals, with a dicalcium phosphate detergent dentifrice. A total of 946 individuals comprising 423 controls and 523 test subjects were employed in the experiment. On the basis of their experimental data they concluded that reduction in carious activity by purely oral hygiene procedures is real and that the actual reduction is probably in the neighbourhood of between 50 and 60 per cent.

Proper oral hygiene, therefore, may reduce dental caries. However, since the maximum acid potential is reached in about 20 minutes (Fosdick et al, 1941) after ingestion of sugars, the time during which teeth are brushed is very important. A thorough removal of carbohydrate substrate is beneficial if done right after a meal.

C. INCREASING TOOTH RESISTANCE TO DENTAL CARIES

According to the hypotheses concerning the aetiology of dental caries,

the disease may be reduced by increasing the resistance of a tooth against acid attack. Theoretically, the morphology of the tooth may be improved, by removal of deep pits and fissures. Gottlieb (1947), suggested that by blocking the organic pathways (lamellae) of a tooth, its resistance against the proteolytic component of dental caries is increased. Caries preventive agents which utilize the above principles will now be discussed.

Role of Fluorides:

McKay (1930) observed a relationship between the presence of fluoride in drinking water and a low susceptibility to dental caries. This observation was strengthened by the finding that the presence of fluoride in teeth was accompanied by a reduction in caries (Armstrong and Brekhus, 1937). The mechanism by which fluoride prevents dental caries has led to some interesting clinical and laboratory experimentation.

The basic inorganic component of enamel is hydroxyapatite. Calcium and phosphate groups form the major part of the apatite lattice; hydroxyl ions, chlorides, carbonates and magnesium are present to a lesser extent. The outstanding characteristic of the apatite lattice is its ability to tolerate different atoms or groups of atoms. Thus, the presence of fluorides in drinking water or in the diet, when teeth are calcifying, results in the deposition of fluoride in the inorganic apatite lattice (Neuman et al, 1950).

The incorporation of the fluoride ion into the apatite structure results in an increase in the hardness and acid insolubility of the enamel and dentine (Volker, 1939, Suess and Fosdick, 1951). The reduction in acid solubility is important as it increases the amount of acid necessary to produce a solution of the enamel surface. However, when a sufficient amount or strength of acid is formed solution may occur. The fluoride ion thus liberated may prevent degradation of

sugars by inhibition of bacterial enzymes. The possibility that this is another mechanism by which fluorides prevent dental caries was previously discussed.

The artificial addition of fluorides (1-1.5 p.p.m.) in drinking water has resulted in promising results, (Hill et al, 1950; U.S. Public Health, 1950). The detailed, long-term implications of this treatment will be available only after the completion of current research projects underway in United States and Canada. At present, this method promises to be our best public health weapon against dental caries. Its major disadvantage is that it will reach only that section of the population which has access to communal water supplies.

It is not necessary for the fluoride ion to be incorporated into teeth during formation to exert its caries reducing effect. Surface reaction between fluoride and the inorganic elements of the tooth is possible after complete calcification of the tooth (Falkenheim and Hodge, 1947). Topically applied fluoride apparently exerts its action primarily by reacting with calcium ions to form a less soluble inorganic salt—calcium fluoride, (Rae and Clegg, 1945). A 40 per cent reduction in dental caries by the use of 2 per cent sodium fluoride, applied topically, was observed by many workers (Knutson et al, 1944; Cheyne, 1942; Jordan et al, 1946).

The adoption of topical application of fluorides as a public health caries reducing measure raises many economic and personnel problems. If it is to be used in the office, the following considerations are important. Topical fluorides will not control a carious lesion but may prevent it. Therefore, it should never be used in open cavities. Its efficacy in rampant caries is questionable. To expect the most benefit from this method, treatment should be commenced as early as possible on young patients (3-5

years of age) prior to initiation of dental lesions.

One of the most important implications of the discovery of the action of fluoride on caries is the realization that tooth substance exerts an important influence on the initiation and progress of caries. This principle opens new possibilities in preventive dentistry as it relates to dental caries.

Impregnation of Teeth (Gottlieb Technique):

The hypothesis that dental caries is initiated, by invasion of the organic lamellae of the enamel, by proteolytic micro-organisms has resulted in a new approach regarding caries prophylaxis. The opinion was expressed by Gottlieb (1947) that mechanical obstruction of the "organic invasion roads" would reduce dental caries. The oft revised technique for tooth impregnation consists of successive applications of zinc chloride (40 per cent) and potassium ferrocyanide (20 per cent) to teeth, after preliminary prophylaxis. An arbitrary statement suggested 36 impregnations are necessary during a six year period (Gottlieb, 1947). The clinical evidence to support the fact that tooth impregnation results in caries reduction is sparse and statistically subject to many criticisms.

Younger, (1949); Crawford, (1949); and Toller, (1950) reported a caries reduction of 80-90 per cent. However, experimental data that could be subjected to statistical evaluation was not presented. Ast et al (1950), in the only well controlled experiment to date, failed to detect any appreciable caries prophylactic effect from impregnation of teeth as suggested by Gottlieb. The theoretical basis of the Gottlieb treatment is open to question and the present clinical evidence suggests that no benefit is to be derived from it.

D. DENTAL PLAQUE

Bacterial action is concentrated upon susceptible surfaces of teeth by

TABLE II.
CARIES PREVENTION

ACCEPTED METHODS	ADVANTAGES	DISADVANTAGES	MECHANISM OF ACTION
1. Reduce sugar intake (particularly between meals)	a. Improved nutrition b. Caries reduction	a. Mass co-operation difficult b. Sugar economical food	a. Elimination of substrate for bacteria
2. Brush and rinse teeth immediately after eating	a. Better oral hygiene b. Caries reduction	a. Inconvenience	a. Removal of substrate
3. Topical application of 2 per cent Na F.	a. Caries reduction b. Simplicity	a. Not a mass control method b. Not practical	a. Reduces solubility of enamel b. Enzyme inhibitor
PROMISING METHODS			
1. Fluoridation of water	a. Caries reduction b. Mass control method	a. More research necessary b. Will not reach rural areas	a. Reduces solubility of enamel b. Enzyme inhibitor
2. Ammoniated dentifrice	a. Non-toxic b. Simplicity	a. Only 10 per cent effective	a. Probably interferes with bacterial metabolism a. Antibiotic
3. Penicillin	a. Simplicity	a. Sensitivity b. Penicillin-fast organism	a. Antibiotic
4. Chlorophyll	a. Simplicity	a. Insufficient research data	a. Interferes with bacterial metabolism
UNACCEPTED		BECAUSE	
1. Calcium therapy		1. Enamel once formed is not subject to calcium deficiencies.	
2. Vitamin tablets		2. Tooth once formed is not subject to alteration through metabolic channels.	
3. Fluoride tablets		3. Insoluble and therefore metabolically inactive.	
4. Gottlieb impregnation technique		4. Ineffective	
5. Synthetic vitamin K		5. Toxic	
6. Glyceric aldehyde		6. Toxic	

means of dental plaques. A dental plaque denotes the proteinaceous material adhering to teeth and presumably originating from saliva. A carious lesion cannot initiate without a plaque; however, plaques are not invariable precursors of caries (Manly, 1943; Vallotton, 1943, 1945; Blayney et al, 1936).

Newly deposited plaques have a very high buffering capacity (Fosdick, 1950,b). Repeated acid attacks; however, may break down this natural defense. It may be that plaques are beneficial, and only after the natural buffering capacity is broken down do they serve as an excellent protection under which caries formation may take place.

Detailed chemical and physical properties of the plaque are not available. At present utilization of the known properties of the plaque for caries prevention appears to be on theoretical grounds, only. Since a plaque is a protein, with a characteristic isoelectric point, it is conceivable that this property may be utilized to retain higher concentrations of caries

preventive compounds, in the oral cavity, for longer periods of time.

CONCLUSION

The present status and mode of action of the current caries preventive agents, as discussed in this paper, are summarized in Table II.

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Everyone knows that the true secret of growing old happily is to remain active for as long as possible, not to worry, to keep one's mind occupied, etc. There is though, much more in it than that. It is no use telling someone of 60, 70 or 80 to remain active and keep their minds occupied. Tell it to them 40 years sooner and it might do some good. Nor would even that be enough, for whether in old age one has all the mellowness of a well-matured wine or only the acidity of a poor one will depend on many things, especially on one's earlier life. Alfred Adler used to judge a person by their success in three spheres: their work, their social relationships, their domestic lives. Success in all three spheres marked the well-balanced man. We feel that natural development in these three directions carried on through life are also the guarantee of a happy and contented old age. There will be constant change in them all and therefore need for constant readjustment. Retirement, the death and departure of friends, the marriage, or the absence of children are inevitable and must all be faced. And yet we feel convinced that any one who develops in these aspects of his life and continues to do so throughout his life—we feel that he can face old age in the expectation of contentment, of happiness and serenity.—Guy's Hospital Gazette, Jan. 1950.

A University of Texas student was a bit skeptical about a British film showing in Austin. "Is it any good?" he asked the girl in the ticket office.
 "Pretty good," she said. "It's a British film, but the actors speak English."
 —Contact Point.

A Review of the Histology, Embryology, Histochemistry and Pathology of the Tooth*

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THERE is perhaps no field in the whole realm of dental literature that has been more neglected than the histochemistry of the teeth, especially the primary teeth. I feel that not enough stress is placed on the study of the histology and the histochemistry of the teeth in the dental schools and many of us leave college with little knowledge of the tooth structure beyond the fact that it is made up of enamel, dentine, and cementum.

This is very well borne out by the fact that it is rather difficult to find any account of the morphology of the teeth in the dental literature and what is written is of a contradictory nature and of very little value to the dental practitioner. Very little is known about the physical character of the enamel, dentine, and cementum especially the enamel, particularly concerning the ratio of the organic to the inorganic components. In any disease process it is this ratio which is upset so that to understand any disease process in the tooth the histochemistry of the tooth must be understood as with any other disease important biochemical changes always precede any physical alteration in living tissue.

Medical diagnosis in a great many cases today is made on certain biochemical changes which take place in the tissues so a medical practitioner unable to recognize these changes would be considered a poor diagnostician. Likewise to treat diseases of the teeth and surrounding structures intelligently the dental practitioner should have a good grounding in the fundamental sciences if the practice of dentistry is ever to be removed from the realm of empiricism. In the develop-

ment of teeth from ectodermal and mesenchymal tissues, the biochemistry of mineralization in the primary and secondary dentitions are essentially the same and although many processes are not entirely understood and much controversy still exists, it is still possible at this time to give a fairly complete picture of the histology and the histochemistry of the teeth.

DEVELOPMENT OF THE TOOTH

In a short discussion of this type it is not possible to cover the development of the tooth in detail, so that I will endeavour only to refresh your memory and touch the highlights.

The tooth germ develops from ectoderm and mesoderm, the two primary tissues in the developing foetus. The ectoderm of the oral cavity forms the epithelial enamel organ, moulds the shape of the entire tooth and gives rise to the enamel. The mesoderm differentiates into the dental pulp inside the enamel organ and elaborates the dentine. The mesoderm, surrounding the enamel organ, forms the cementum covering the root and the periodontal membrane. On or about the thirty-fourth day an epithelial thickening appears along the free margin of the jaws and there arises from this thickening ten swellings in each jaw corresponding to the twenty deciduous teeth. Unequal growth in different parts of the bud leads to invagination and the formation of a cap which consists of an inner layer of cells called the inner enamel epithelium and an outer layer, the outer enamel epithelium. The cells situated between these two layers are called the stellate reticulum or enamel pulp. The cells between enclosed by

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the invaginated portion proliferate and form the dental papillae which is the formative organ of the dentine and primordium of the pulp. The inner enamel epithelium becomes the ameloblasts or enamel forming cells. The mesenchymal cells which face the ameloblasts become larger and are called the odontoblasts or dentine forming cells. Differentiation of the surrounding mesoderm occurs and fibrous tissue begins to form around the outer surface of the enamel organ and at the base of the dental papillae. This is called the dental sac and will differentiate into cementoblasts, fibroblasts and osteoblasts and form cementum, periodontal membrane, and alveolar bone respectively. At this stage the tooth has not taken on any inorganic elements and now might be called the organic matrix of the tooth which later becomes calcified.

AMELOGENESIS

This occurs in two well defined phases. The first is termed the formative phase. In it the enamel rods are formed by the ameloblasts and is a primary step in calcification, about 30% of the final mineral contents being deposited in the organic substance of the rod. The second phase is characterized by a gradual replacement of most of the remaining organic material of the rods and interrod substance by lime salts and this latter phase has been termed maturation. Amelogenesis lags behind dentine formation and is characterized by the formation of Tomes processes by the ameloblasts. This is a protoplasmic outgrowth from each ameloblast and these processes are separated from each other by extension of the terminal bars. The Tomes process becomes the organic rod substance and the extension of the terminal bars are transformed into the interrod (interprismatic) substance. The enamel rod proceeds outward from the dentino-enamel junction from the growth centres which are the cusps of the future teeth and extend cervically in graded daily intervals. The form of

any incremental layer is that of a cone in three dimensions, the apex pointing occlusally and the base resting upon the dentino-enamel junction. Incremental cones of enamel are opposed successively one above the other until the enamel reaches the right height. The demarcation between successive incremental layers are called Striae of Retzius. These stratifications occur rhythmically at intervals of approximately 16 microns in the enamel as well as in the dentine. These striae occurring regularly seem to be the result of a physio-chemical phase in the calcification process, just as the cross striations of the enamel prisms are expressions of the daily appositional rhythm in the activity of the ameloblasts. These striae may be produced by constitutional or environmental factors such as birth, weaning, seasonal changes and any disease which disturbs enamel formation and calcification at this time.

MATURATION OF ENAMEL

The process of calcification differs from that observed in any other calcified structure and when fully calcified contains about two to four per cent organic matrix. It seems the enamel is first laid down in organic material and calcification of this material proceeds by infiltration through the ameloblasts from periphery towards the centre. Later the interprismatic substance becomes calcified. This impregnation begins at the highest point of the cusps and follows the pattern of eruption. This maturation proceeds slowly and parts of the enamel close to the cemento-enamel junction may still be in the matrix stage (organic stage) when the tooth is in full function. This may explain the fact that topical application of fluorine for the reduction of decay is more effective in newly erupted teeth and may clarify why endemic fluorosis is seen in these areas. It might be well here to compare enamel rods with interprismatic substance.

1. The interprismatic substance is

not as strong, that is, not as well calcified.

2. It is more readily dissolved by dilute acids due to its containing more organic material.

In the enamel we also have imperfectly calcified areas resembling cracks which extend through the enamel and are called enamel lamellae. We also have enamel tufts which only extend part way through the enamel. Both the lamellae and tufts are considered less resistant to decay.

THE DENTINE

The question concerning dentine formation especially what cells are responsible for its formation is still a very controversial subject. The opinion most highly regarded is that the odontoblasts have only a secondary function of building protoplasmic processes for the maintenance of circulation and nutrition in the dentine and that the dentine matrix is formed by Korff's fibres. Dentinogenesis begins at individual growth centres on the dentino-enamel junction and proceeds from without inward. As each odontoblast recedes it leaves behind a cytoplasmic fibre called Tome's fibre which is embedded in the matrix. Ground substance is deposited around and between the Tome's fibre and becomes calcified imprisoning the Tome's fibre in a tube called the dentinal tubule. Korff's fibres arise from the deeper cells, layers of the pulp and Orban finds that dentine develops through the transformation of precollagenous argyrophilic fibres (Korff's fibres) of the pulp into a collagenous matrix which later calcifies. He suggests the odontoblasts may in the later stages produce the interfibrillar substance and may produce some chemical substance which changes the fibres into collagenous fibres.

Pattern. Dentine apposition begins at the dentino-enamel junction from without inward. It forms in the shape of a cone with the apex pointed occlusally and successive incremental cones are deposited, one within the other and

always precedes enamel formation. The most recently formed and still soft and uncalcified dentine matrix is called predentine and contains no inorganic calcium. Calcium is precipitated in the predentine in sub-microscopical hexagonal crystals of tricalcium phosphate (apatite). These crystals occur as rounded clusters of calcospherites, which consist of concentric lamellae. These calcospherites aggregate and coalesce and form large regular layers. These calcospherites consist of acid resistant matrix of calcoglobulin in which the calcium salts are deposited. If these calcospherites do not fuse completely we have what we call interglobular dentine. Under what we call normal conditions successive layers of dentine are not equally well calcified. Disturbances in calcium metabolism are manifested in the form of interglobular incremental layers of dentine. These have been associated with constitutional disturbances such as poor diet, tetany, rickets and disease which upsets the calcification mechanism. I have endeavoured to give you a short review of the embryology and histology of the enamel and dentine, the two structures we are most concerned with in this paper. In reviewing the histology and embryology I pointed out how a tooth could develop defects through disturbances in mineral calcification.

BIOCHEMISTRY OF MINERALIZATION

This process whether in bone dentine or enamel is probably essentially the same and some of the evidence obtained from research on bone has been utilized. In its simplest form, Nuckolls says, "mineralization of the matrix is the precipitation of a basic calcium phosphate from the calcium phosphate and other ions from the extracellular fluid circulating in the minute fluid spaces between the protein fibres of the tooth matrix." In summarizing this Nuckolls says in this mineralization process we have first a liberation of an excess of inorganic phosphate from inter-cellular glucose phosphate. This reaction is catalyzed by the enzyme

phosphate. The phosphate thus freed produces an oversaturation of the phosphate ion with the precipitation of basic tricalcium phosphate from the calcium, phosphate and other ions circulated in the fluid spaces of the tooth matrix. This accounts for the first mineralization of the tooth approximately 70% and the final mineralization is brought about through the liberation of calcium from the calcium proteinate which combines with the excess phosphate ions in a given area and this completes the mineralization."

METABOLIC DISTURBANCES AFFECTING TOOTH FORMATION

In the development of enamel and dentine which follow one another in sequence so that they become dependent one upon the other if one enzymatic reaction is disturbed during development every subsequent reaction may be incomplete. These disturbances may be divided into three categories.

1. disturbances in mineralization.
2. vitamin deficiencies.
3. hormonal.

Deficiencies in calcium and phosphorous produces changes in the mineralization pattern of enamel and dentine although phosphorous deficiencies do not seem to affect the mineralization pattern to such a degree. Vitamin deficiencies and any disease which lowers the blood calcium will affect the mineralization of the enamel and dentine matrix.

When a tooth is not fully calcified it contains more protein and therefore is more susceptible to dental caries and in the dentine these areas are called interglobular areas which I referred to previously and once formed do not undergo remineralization. We would conclude from this statement that the addition of calcium and phosphorous to the tooth after the tooth is formed will have no effect on remineralizing the tooth or making it less susceptible to caries.

Magnesium also is a necessary ingredient for activating the alkaline phosphatase which catalyzes the re-

action thus breaking up glucose phosphate to liberate inorganic phosphate. We might at this stage, say something about the addition of fluoride to the development of the tooth. Fluorine in small quantities acts by replacing some of the phosphate groups in the basic tricalcium phosphate thus producing a stronger, harder enamel known as a fluoro apatite. A higher concentration of fluorine replaces too many phosphate groups and results in mottled enamel. In even greater concentration it acts only as a poison to some of the acid phosphates which have to do with carbohydrate metabolism of the cell but also disturbs the crystalline lattice pattern. If large concentrations of fluorine are used over a period of time the ameloblasts atrophy and we have a deformed and hyperplastic tooth.

VITAMINS

Keratin is a necessary constituent for enamel development and vitamin A is necessary for its formation so that a lack of vitamin A will cause atrophy of the tooth germ and poor enamel formation and in severe deficiencies, cessation of enamel formation. As with vitamin A, vitamin C is necessary for proper dentine formation and proper maturation of the dentine. It seems that collagen is necessary for proper dentine formation and with a lack of vitamin C, collagen is not formed and dentine does not mature correctly.

Vitamin D is necessary for proper absorption of calcium and phosphorous through the intestinal wall and the reabsorption of these elements through the renal mechanism to maintain the proper level of these elements in the blood stream, which must be maintained in order to have calcification of the bones and teeth.

HORMONES

The role of hormones in tooth development is not very well understood at this time but we do know that a deficiency of the parathyroid hormone produces a lowering of the blood calcium

and phosphorous and anything that lowers the blood calcium has its effect on the developing teeth and bones. It has also been shown that thyroidec-tomy results in retardation of eruption and interglobular areas of dentine.

DENTAL CARIES

Dental caries is more than a simple process of acid erosion or dissolution of the inorganic elements and the pathology of caries has long been recognized as intimately associated with the nature and extent of organic elements making up the matrix. It is necessary at this time in considering caries as a pathological process to review more specifically the organic content of the matrix from a histological viewpoint. Various research men have found very little organic matrix in a well calcified tooth. The enamel rods are composed of three parts, the cortex, core and rod membrane. The cortex constitutes the lateral wall of the rod which is homogenous, dense and the first part to undergo calcification. The core is the centre which is less dense and may show incomplete hyalinization. Surrounding the rods and external to its cortex is a delicate rod membrane thought to be part of the ameloblastic membrane. The interprismatic substance is similarly composed to that of the rod but less dense and occupies the space between the rods and is the last portion of the enamel to calcify.

The initial caries lesion is associated with the formation of the bacterial plaque and the breakdown of the enamel cuticle, which is a homogenous structureless covering over the enamel rods and inter rod or interprismatic substance. The breakdown of this cuticle is thought to be due to acidogenic bacteria removing the readily soluble inorganic constituents thus exposing the rods and internal matrix and thus making way for the invasion of gram positive micro-organisms. After the cuticle is destroyed the next process is thought to be one of proteolysis of the matrix thus freeing the less soluble basic tricalcium phosphate

from its organic bond and favouring its solution by the products of acidogenic bacteria which penetrate secondarily along the underlying pathways. This lysis seems to attack the core and internal matrix first which as we stated before is more organic and not as well calcified. This process extends through the entire thickness of the enamel and in a carious area we find the rods and internal matrix packed with grams positive organisms.

From this we would conclude that an immunity to caries depends on how well the tooth is calcified which in turn depends on many things such as any upset in the body metabolism such as deficiencies and diseases. I think we must also change our views on the carious process as it is not only an acidogenic reaction but also a proteolytic reaction, which process is favoured by poor tooth construction.

It has been pretty well established that the pathology of caries is not a simple decalcification process by acid but probably a combination of acid decalcification with proteolysis. In the control of caries some progress has been made but the suggested remedies are so difficult to carry out even to lessen caries that a better method of control must be found. It should be borne in mind that up to date no single bit of evidence from a critical viewpoint on the experimental work on caries points to the early solution of the problem. There are certain factors such as the administration of fluorides, the reduction of carbohydrates, adequate mouth hygiene, and many other considerations too numerous to mention which contribute to caries control. However when caries control is exercised, they are but extraneous factors superimposed on an already fixed histochemical pattern, that of the fully developed tooth. The early pathology of the disease seems to be intimately related to the nature and extent of the organic elements comprising the matrix of the tooth and the activity of the attacking organisms.

Development defects such as lamellae

and the lesser order of calcification of the enamel matrix such as tufts and poor mineralization may be of fundamental concern during the formative period in the initiation of the pathological lesion. It is to be pointed out that the micro-organisms associated with the lesion have penetrated far in advance of a microscopic breakdown of the enamel surface.

In spite of many years of research a full understanding of the aetiology of dental caries has not yet been reached, hence effective prevention is not entirely possible until the aetiology is better understood and at present only a working hypothesis on the sequence of the many processes involved has been set up. Little by little is in fact practically the only way we can tackle life today. We are hobbled by uncertainties not of our making and over every hill is a new unknown problem. Education, knowledge and intellectual skill contribute to our help, but we must still use careful judgment.

To reach a great decision requires intellectual integrity, the suppression of wishful thinking, and the strictest regard for the truthfulness of evidence. Wide reading will help us to keep our balance in a world that is becoming

increasingly specialized in narrow grooves. It will help us to think clearly, and to express ourselves meaningfully. These are days when our problems are in some confusion and there are no ready-made answers. Our mind is likely to get so printed over with so many answers to the same problem that we feel incapable of simple and straight line reasoning. We need to learn constantly, but more than that, we need to relate what we learn to the realities of experience and practice. This means that education in our adult life will consist as much of unlearning and re-learning as of tackling new problems. If we do not do this we will walk into future years like a blindfolded person walking on an unfamiliar street without his seeing-eye dog.

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Insufficient emphasis is being placed on the non-technical aspects of dentistry with respect to selection of dental students. The emphasis on technical proficiency is necessitated by short period available for equipping the student with the skill and knowledge required of the dentist. Selection has been concerned primarily with the identification of students who can master these requirements. The difficulty in predicting the non-technical aspects has, of course, been partially responsible for this emphasis.

A great need exists for a sound definition of effectiveness in dental practice. A preliminary study of critical requirements indicates that such a definition consists of other factors besides technical proficiency. These have been tentatively called "handling patient relationships", "accepting professional responsibility" and "accepting personal responsibility". If the definition of what constitutes success in dentistry is enlarged to include these factors there will be available the realistically complex criterion which selection batteries should strive to predict.—Ralph F. Wagner in Jour. Am. College of Dentists.

"The number of hours a dentist puts in is important, but it may not be as important as what the dentist puts into the hours."

Further Report on a Case of Blastomycosis of the Gingiva and Jaw

by W. A. CRICH, D.D.S., Grimsby, Ontario

IN 1932 I reported a case of blastomycosis of the gingiva and jaw. This patient has made a complete recovery and last year (1949) I had the opportunity to re-examine him.

Blastomycosis was first observed in Baltimore in 1894 by Gilchrist,¹ and since that time cases have been reported from many widely separated parts of the United States and Canada, with the largest numbers from Illinois and Louisiana. This disease is now known as blastomycosis, North American blastomycosis or Gilchrist's disease.

Historical Data of Canadian Cases.—In 1948 Starrs and Klotz² made an analysis of Canadian reported cases. Of the sixteen cases reported, they concluded that only five could be considered for inclusion in the category of proved cases. These writers accepted my case as a presumptive one. They pointed out that in no instance, up to the time of writing, had any Canadian author utilized the specific intracutaneous test or complement fixation reaction. Most Canadian reporters had also failed to present complete details of the cultural studies to prove the identity of the organism.

Blastomycosis involving the gum tissue or jaw is extremely rare. It may occur as a primary condition or as part of a general systemic infection. North American blastomycosis is a chronic infection, caused by *B. dermatitidis* and characterized by the formation of suppurative and granulomatous lesions in any part of the body, but with a predilection for the skin, lungs and bones.

Martin and Smith^{3,4} concluded that Gilchrist's disease is an infection essentially limited to North America and caused by the mould-like *B. dermatitidis*, whereas the European type is caused by the yeast-like *cryptococcus*.

They also stated that the disease is much more common in male patients, the ratio being nine to one. Fifty per cent of the patients were over forty years of age, with almost as many between twenty and forty years. No age group was observed to be immune.

Source of the Organism.—The fungus may have a saprophytic existence on plants, since numerous strains of blastomyces are widespread in nature.⁵ Its natural habitat is dark moist filthy unventilated ground, and, therefore, stables, cellars, and other unhygienic places provide the proper environment for infection.⁶ It most commonly infects agricultural workers, common labourers, and persons who work in damp, dirty or wooded places.

Portal of Entry and Mode of Transmission.—Although the exact method of infection is not yet clearly understood, it is generally agreed that the organism enters the body, either by way of the respiratory tract, from inhalation, or through an abraded cutaneous area.⁷ The cutaneous variety commonly results from trauma, such as scratches, bruises or puncture wounds, which introduce foreign bodies such as thistles, thorns and splinters of wood.

Period of Incubation.—The period of incubation is usually stated to be unknown, but has been estimated as from one to two weeks.⁸

Demonstration of the Organism.—The fungus may be readily demonstrated in the pus from cutaneous lesions or in sputum and occasionally even in urine and cerebrospinal fluid, but rarely in the blood. It is usually not difficult to demonstrate from the lesions in the skin, if one examines the pus from small abscesses at the periphery of a lesion. An unstained direct preparation, with or without the addition of ten to twenty per cent sodium

or potassium hydroxide to the material examined, will usually reveal the organism, if studied under the microscope with subdued light. Pus is expressed on a clean slide and a coverslip is dropped on it. Budding cells should be readily observed, but, if they are not, the preparation may be ringed with petrolatum and left for a few hours, after which blastospores will likely be noted.

Structure of the Fungus. — Microscopically, the organisms are seen as doubly refractile, often budding, round or oval cells, eight to twenty microns in diameter. When a stained histologic section is examined, the characteristic budding thick-walled, double-contoured fungi may be noted in giant cells or in granulation tissue. An important feature is that in the tissues they multiply only by budding and form no mycelia or ascospores.⁶

The morphologic picture varies in the same strain, and occasionally different strains can be isolated from the same patient in separate lesions, but Martin's work has proved that these are all one and the same organism.⁷

B. dermatitidis grows luxuriantly at room temperature on artificial mediums, but not so readily at higher temperatures or in the presence of bacteria and is therefore sometimes missed in incubated cultures.⁸ It is also a non-fermenter.⁷

Cutaneous blastomycosis develops as a papule usually on the skin of the face and other exposed parts of the body. In a short time it becomes pustular and develops into an ulcer with a soft papillomatous floor. The border of the lesion is raised, irregular and indurated, and contains numerous miliary abscesses. The lesion spreads by slow extension from the periphery.

Inoculation of Laboratory Animals.

The disease has been reproduced in experimental animals, but practically all strains showed very low pathogenicity. The mouse is most susceptible, the rat less so, and it is difficult to infect rabbits and guinea pigs. Generalization of the infection, even in

mice, does not always occur, and death of the animal should not be expected. Injection of infected material into the abdominal cavities of mice may allow recovery of the fungi from the peritoneal washings.⁹

DIAGNOSIS

Starrs and Klotz² feel that a definite diagnosis can be established only by identifying the causative organism. A multiplicity of lesions, especially when the lungs, bones, and skin are involved, suggests a mycotic infection. Failure to demonstrate the *B. dermatitidis* in the sputum or in direct smears of pus does not necessarily exclude the diagnosis, since the organisms at times may be difficult to observe. Cultural studies are most important in identifying the particular organism. Biopsy of cutaneous lesions will often clear up any confusion. Additional aid may often be secured by animal inoculation. Different men feel that a biopsy which reveals the typical histologic changes and the budding micro-organisms is sufficient to make the diagnosis a certainty. Further diagnostic procedures however are available in the form of intracutaneous sensitivity test and the complement fixation reaction as advocated by Martin and his group.

Prognosis.—The prognosis in early cases of cutaneous blastomycosis is not especially serious as far as life expectancy is concerned, but rather unfavourable regarding the possibility of cure.

In systemic blastomycosis however, all authorities agree that the prognosis is exceedingly unfavourable. Most writers have stated that the mortality rate is over ninety per cent within three to five years after onset.

Treatment.—Surgical diathermy, radium, roentgen rays and large doses of potassium iodide are most often used in the treatment of this disease.

CASE REPORT

The case reported here is of unusual interest on account of the lesion involving the gingival tissue and bone of the

lower jaw. It is now eighteen years since this patient was treated. At the present time there is certainly no evidence of any blastomycosis and this patient is working hard and living a normal life.

Case as Reported in 1932.—Mr. W., aged 56 years, a storekeeper, living on the Manitoulin Island in Northern Ontario, came to the Lockwood Clinic on November 25, 1931, for a full mouth dental x-ray. On November 22 his physician had removed his lower left central incisor because of an apparently infected condition around it.

Examination of his mouth showed a marked hyperplasia of the epithelial tissue in this area, with an ulcer of approximately one centimetre in width on the buccal surface. The ulcer, which was painless, was oval in shape and of

a fiery red colour, with a small contracted opening in the centre through which an instrument could be passed into the socket from which the tooth had been removed. The swelling, which was of a soft spongy granulomatous nature, was more prominent on the lingual than on the buccal surface. A very slight amount of thin mucoid pus was exuding from the crater of the ulcer. The submaxillary glands were swollen, hard, and appeared to be adherent to the lingual border of the mandible. The right was the larger of the two glands. The lesion in some ways resembled a low grade epithelioma, but the swelling in the glands was not characteristic of ordinary inflammatory reaction.

Previous history.—On November 19, 1931, the patient had first noticed a



FIG. 1

Showing extensive infiltration of left apex.

slight swelling of his submaxillary glands, and at the same time a swelling of the gum tissue on the lingual surface of the lower left central incisor. This tooth was extremely loose. On November 22 he saw his physician and he stated that there was also a swelling on the buccal surface. The tooth was removed easily, without any anaesthesia. Upon further questioning Mr. W. stated that this tooth had been sore on two previous occasions, as far back as six months. The lower incisors did not occlude with his upper teeth, and all had been vital when seen two years before. He also stated that about the middle of October he had not been feeling well, and was surprised upon taking his temperature to find it register 102°F. He went to bed for two days and stayed in the house for two weeks, being treated for what resembled an attack of influenza. During this time he checked his temperature and found it to be irregular. In the mornings it was usually normal or subnormal, with a rise to 99 to 100°F. in the afternoons and evenings. He had also had night sweats and a slight cough, with sputum in the mornings. On one occasion, after coughing a little more violently, he had noticed a slight speck of blood in his sputum. He was then advised to have a general examination.

General examination.—A skiagram of his chest (Fig. 1) revealed an extensive infiltration of the left apex which resembled pulmonary tuberculosis. Samples of sputum on two different days were negative for the tubercle bacillus. X-ray showed the right antrum to be cloudy and a small amount of pus was found upon irrigation. The urine was negative. The haemoglobin was 92 per cent; leucocytes 7,800. Physical examination of the chest did not reveal any serious pulmonary condition. An x-ray revealed entire loss of bone in the area from which the tooth had been removed. (Fig. II). The bone supporting the adjacent teeth appeared to be normal.

Progress.—The patient was hospital-



FIG. 2

Showing extensive loss of bone.

ized and continuous dry heat was applied to the submaxillary glands. On November 28 the left gland was larger than the opposite one, and two or three tiny elevated yellowish pinhead nodules were noticed on the gum tissue, about one centimetre from the edge of the lesion. Upon pressure one tiny bead of pus was expressed from each one. The following day there was no evidence of them. After five days the

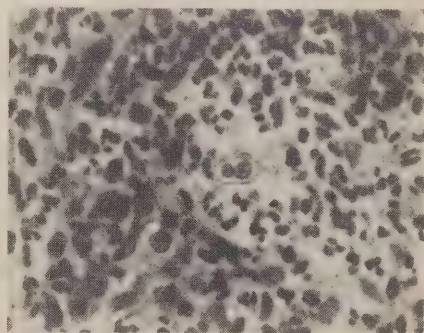


FIG. 3

Budding forms of blastomyces in the centre of the abscess.

glands had decreased somewhat in size, but were still very hard. On December 1, 1931, the ulcer showed little change, so it was decided to remove a small specimen of tissue for diag-

nosis. The pathological report from the provincial laboratory on this specimen was blastomycosis. (Fig. III).

On December 4 the patient called attention to a number of small globular dull red swellings, about half an inch to an inch in diameter, on his legs. These resembled the tumours seen in erythema nodosum.

The case was referred to Dr. New at the Mayo Clinic, and our diagnosis regarding the gingival lesion was corroborated by Dr. Broders on a biopsy.⁹ Physical examination of the chest did not reveal any evidence of tuberculosis, so that it is very difficult to state definitely whether the lesion in the left apex was tuberculosis or blastomycosis. If the chest condition were tuberculosis then the gingival lesion would be a primary blastomycosis, and it is reasonable to suppose that the organism gained access to the tissue about the time the soreness developed in the gum tissue and the glands became swollen.

Mr. W's business has always taken him outdoors a large part of the time, and he states that he has always been in the habit of plucking blades of grass or hay and carrying them in his mouth. He may have carried the organism into his mouth in this manner. On the other hand, if the chest were the primary focus then it is possible that the blastomycetes were present in his saliva at different intervals and that some of these organisms got into the gingival crevice around this tooth and gained access to the tissue via this route. Another point of interest is that his previous illness followed the loading of a car of vegetables, at which time he got overheated. His infection may have started at that time.

On account of not being able to prove definitely that the chest lesion was blastomycosis Dr. New advised destruction of the jaw lesion, with surgical diathermy, to be followed by radiation extending over the glands of the neck. Following this treatment, Mr. W. lost the two lower lateral incisor teeth and

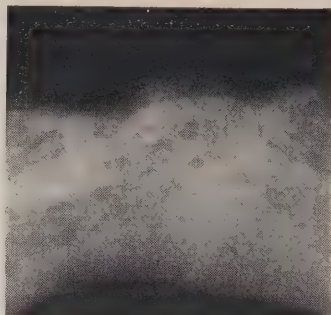


FIG. 4

Showing normal bone, Feb. 1949.

had a sequestrum removed from this region.

Re-examination.—In February 1949, I had the opportunity to re-examine Mr. W. Clinical and x-ray examination of this mouth revealed no evidence of any pathosis. Fig. IV. The lower cuspid teeth were still in position and being used to stabilize a lower denture. Roentgenograms of the chest Fig. V. were made and the films examined by a specialist at the Mountain Sanatorium, Hamilton, who reported no evidence of any disease present.

SUMMARY

1. A case of blastomycosis is reported in which it is difficult to determine the site of the primary lesion and in which there has been a complete cure.

2. Blastomycosis of the gum tissue and jaw is extremely rare. It is my opinion that there probably have been other such cases which have either not been reported or not recognized.

3. This case serves to show how difficult it is even for thoracic specialists to differentiate between tuberculosis and pulmonary blastomycosis on account of the similarity of the clinical pictures in the two diseases.

4. It serves to show that a dental oral surgeon who is well trained in recognizing pathological conditions in the oral cavity is a valuable asset to a group practising medicine.

5. One should remember that the dentist often has the opportunity of

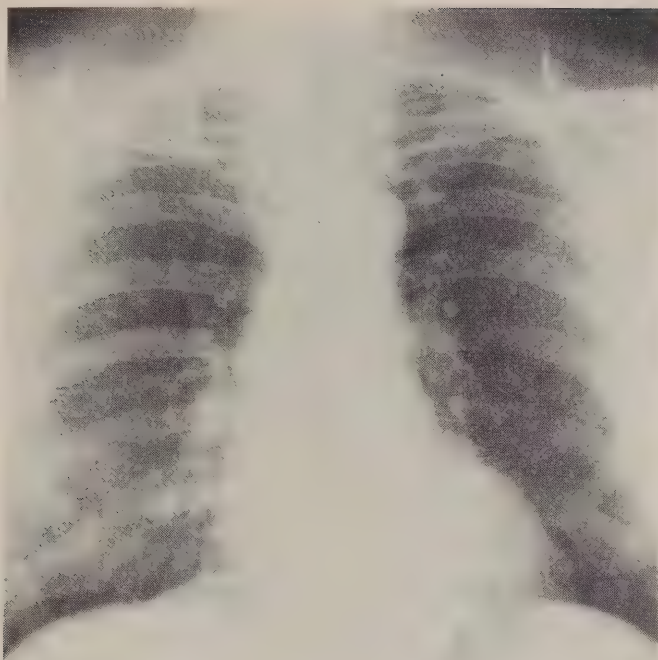


FIG. 5

Showing no evidence of disease, Feb., 1949

seeing very early oral lesions of systemic disease before the physician. It is therefore most important for every dentist to be familiar with these lesions and whenever there is any doubt, to do a biopsy.

6. In this case the pathologist hesitated to make a diagnosis on his first group of slides because he could not believe his findings. After making many further slides he was convinced that this was a case of blastomycosis.

7. This case also shows the value of thorough and radical treatment.

8. In cases of rare disease the operator or diagnostician should not hesitate to immediately refer the patient to someone who is accustomed to seeing unusual cases of this nature.

9. The chest picture in this case has

changed completely. It is interesting to note that at no time either at the Lockwood or Mayo clinic could any tubercle bacilli be found in his sputum.

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ANNOUNCEMENT

UNIVERSITY OF TORONTO, FACULTY OF DENTISTRY CONTINUATION COURSES FOR GRADUATES IN DENTISTRY

The Faculty of Dentistry, University of Toronto, announces a series of short intensive courses for dentists during the 1951-52 session. These courses will be arranged and conducted by the staff of the Faculty of Dentistry with the co-operation and financial support of the W. K. Kellogg Foundation of Battle Creek, Michigan. When deemed advisable, outstanding visitors will be included among the lecturers and clinicians.

These courses will be designed to provide the general practitioner with an opportunity to keep abreast of standard methods and procedures of practice, and to become informed respecting the most recent developments within the profession. Instruction will be given through lectures, seminars, and clinical demonstrations. The fees for the courses will be \$75.00 for a five-day course, \$50.00 for a three-day course, and there will be a registration fee of \$10.00 for the Dental Public Health Conference.

PERIODONTICS

October 29—November 2, 1951. 9.00 a.m.—5.00 p.m. Enrolment limit 14.

ORTHODONTICS (for the general practitioner)

November 5-9, 1951. 9.00 a.m.—5.00 p.m. Enrolment limit 10.

DENTAL ORAL SURGERY AND ANAESTHESIA

November 19-23, 1951. 9.00 a.m.—5.00 p.m. Enrolment limit 12.

DENTAL PUBLIC HEALTH CONFERENCE

November 20, 21, 1951. 9.00 a.m.—5.00 p.m. Enrolment limit 15.

CEPHALOMETRIC TECHNIQUES (for specialists only)

January 28, 29, 30, 1952. 9.00 a.m.—5.00 p.m. Enrolment limit 10.

OPERATIVE DENTISTRY

February 18-22, 1952. 9.00 a.m.—5.00 p.m. Enrolment limit 10.

DENTAL RADIOLOGY

February 25—March 1, 1952. 9.00 a.m.—5.00 p.m. Enrolment limit 12.

DENTAL CARIES: AETIOLOGY AND PREVENTION

March 6, 7, 8, 1952. 9.00 a.m.—5.00 p.m. Enrolment limit 6.

ENDODONTICS

March 10-14, 1952. 9.00 a.m.—5.00 p.m. Enrolment limit 8.

ORTHODONTICS (for the general practitioner)

March 31—April 4, 1952. 9.00 a.m.—5.00 p.m. Enrolment limit 10.

PEPODONTICS

April 14, 15, 16, 1952. 9.00 a.m.—5.00 p.m. No enrolment limit.

DENTAL ORAL SURGERY AND ANAESTHESIA

April 21-25, 1952. 9.00 a.m.—5.00 p.m. Enrolment limit 12.

PERIODONTICS

April 28—May 2, 1952. 9.00 a.m.—5.00 p.m. Enrolment limit 14.

Other courses will be arranged as the demand indicates. Those interested are asked to inquire respecting enrolment. Please address inquiries to: The Dean, Faculty of Dentistry, University of Toronto, 230 College Street, Toronto 2-B, Ontario.

A FIVE DAYS COURSE IN RADIOLOGY AND ORAL SURGERY will be held Nov. 5-10, at the UNIVERSITY OF MONTREAL, under the personal direction of:

Dr. LeRoy M. Ennis, Professor of Roentgenology in the Thomas W. Evans Museum and Dental Institute School of Dentistry, University of Pennsylvania; author of the text-book "Dental Roentgenology", etc. . . . and Harry M. Seldin, author of the text-book "Practical Anaesthesia for Dental and Oral Surgery", former chief of the Oral Surgery Dept., New York University, etc.

A detailed program will be sent upon request. The class will be limited to twenty. The fee for the course is \$75.00. For information, write to Dr. Gérard de Montigny, Faculty of Dental Surgery, University of Montreal, 2900 Mount-Royal Blvd., Montreal 26.

THE AMERICAN ACADEMY OF DENTAL MEDICINE will hold its Mid-Winter Meeting and Luncheon at the Hotel Statler in New York City on December 2, 1951 at 12:30 p.m. A Business Meeting for members and delegates will be held at 10 a.m.

Round Table Discussions on dento-medical subjects will follow the Luncheon. All members and interested dentists and physicians are invited. For programs and reservations address the National Secretary, Dr. William M. Greenhut, 124 East 84th Street, N.Y. 28, N.Y.

SEE CORRECTED PROGRAM OF THE ANNUAL FALL CLINIC OF THE MONTREAL DENTAL CLUB, November, 21-23, in the News from the Provinces Section (Quebec) of this issue of the Journal.

NEW ORLEANS DENTAL CONFERENCE, Roosevelt Hotel, New Orleans, November 11-14, 1951. Dr. M. R. Matta, Sec., 629 Maison Blanche Building, New Orleans, La.

The Forum

OSTEOMYELITIS, DRY SOCKET

by EARLE H. THOMAS, M.D., D.D.S., LL.B., Chicago, Illinois

Condensed from F. Review of Chic. D. Soc.

1. (a) *What symptoms differentiate osteomyelitis from acute alveolar abscess?*

Early in both diseases the pain may be intense in or around one tooth. On the second and third days, the pain is progressively more intense in both diseases; it remains localized, however, if the cause is an abscess but it involves the adjoining teeth if osteomyelitis is the cause. By the fourth day, pus from the abscess may break through the cortical layer of bone, thus relieving most of the pain and causing a marked swelling of the overlying soft tissues. In osteomyelitis, the pain has increased steadily, involving more teeth, and the soft tissues overlying all of these teeth have become edematous but there is no excessive swelling. Although there are exceptions, these differing symptoms are usually seen in the routine development of the two diseases.

(b) *What is the treatment of osteomyelitis?*

At the first indication of an osteomyelitis developing, a surgical incision including stripping of the periosteum over the entire involved region is performed immediately, thus giving drainage from the interior of the bone to the outside through the innumerable tiny openings in the cortical plate. This drainage is maintained, usually by iodoform gauze, until Nature has overcome the acute phase of the infection. If sufficient drainage is established early enough, within the first two or three days, it is possible for complete

resolution to take place without the development of necrosis of the bone and without loss of teeth. If the condition has been neglected for three days or more, necrosis may be expected and adequate drainage is maintained where necessary until sequestration has taken place. Even where necrosis has developed, few teeth need be lost regardless of how loose they become.

Although massive doses of the antibiotics may stop some cases of osteomyelitis, waiting for their effect without instituting adequate surgical drainage will allow disastrous necrosis to occur in a majority of cases. When the antibiotics are given in conjunction with surgical drainage, the symptoms of hidden regions of necrosis are often masked resulting in unnecessary extension of the disease with resulting bone destruction. In many types of osteomyelitis, therefore, we prefer not to use antibiotics.

(c) *Following osteomyelitis or any other infection, how do you diagnose the presence of necrotic bone and how do you treat it?*

If, after incision and adequate drainage until all inflammation has subsided, the soft tissues are allowed to heal stopping further drainage, no subsequent swelling should occur. If swelling does occur, it usually indicates the presence of necrotic bone and drainage should be reinstituted and continued until such necrotic bone sequesters and is removed.

If the soft tissues are not allowed to heal over a region where bone is ex-

posed, the surface of the bone will gradually become covered with granulation tissue. Normal granulation tissue has a distinctive appearance and, when pressed against a blunt instrument, exhibits a certain degree of firmness. If any region of this granulation tissue appears different from normal, builds up faster than normal, or becomes softer than normal, such changes usually indicate underlying necrotic bone. Careful probing under such regions will evacuate pus or dislodge bone unattached to granulation tissue and such individual regions should be kept draining until sequestration has taken place.

Sequestra are nearly always removed as soon as they separate. In unusual situations, however, where the sequestrum involves a large cross-section of the mandible or its entire cross-section with accompanying pathological fracture and, where the effect of removal would be to cause deformity, the large sequestrum is left *in situ* with adequate drainage maintained until the periosteum has deposited new bone in an involucrum sufficient to maintain the normal shape of the jaw. Such a procedure of using the sequestrum as a mould will not only prevent marked deformity but will also obviate the necessity of bone grafts in most cases.

2. *What factors influence the decision to use tube drainage rather than an enucleation operation in the treatment of a large bone cyst?*

When a large cyst involves the maxillary sinus, the inferior dental nerve, the apices of the roots of vital teeth, or other structures where enucleation would cause possible or probable irreparable damage, tube drainage is indicated. This tube drainage can be continued until the entire cyst is wholly obliterated, or it may be discontinued and an enucleation operation performed as soon as the cyst wall has receded from all important structures.

3. *How do you treat "dry sockets" and how can they be prevented?*

In a so-called dry socket, the surface

of the bone is bare and either alive or dead and necrotic, or there may be present simultaneously a combination of both conditions. In a socket surrounded by normal gum margins, packing the whole socket lightly with iodoform gauze saturated with almost any non-cauterizing obtundent would stop the pain in a few minutes. After the first packing, the pain may return in a few hours or the following day at which time the packing should be changed. After the second packing, it can be changed every second or third day until all surfaces of bone are covered with granulation tissue, after which there will be no more pain. If there still remains a large cavity where food and debris can collect, socket paste can be used until the cavity is filled with healthy tissue. Granulation tissue does not replace necrotic bone until osteoclasts have absorbed or sequestered such bone.

If undue damage during extraction has caused death and loss of soft tissue leaving exposed bone that cannot be covered with a gauze pack, the nerve endings in such bone should be destroyed with silver nitrate. The necrotic surface bone, after such treatment, will be absorbed or sequestered leaving healthy granulation tissue which will subsequently epithelialize.

Dry sockets rarely develop if proper surgical procedures are followed. It would require a book to discuss all of the underlying causes. A discussion of these causes and their avoidance would take in the whole field of the principles of surgery and local anaesthesia, plus other fields, and would involve every move made during anaesthesia and operation.

Some helpful suggestions, however, are as follows: one will not have a dry socket if he uses the weakest local anaesthetic possible, the least amount of anaesthetic possible and containing a minimum per cent of constricting agent, opens up the soft tissues sufficiently to avoid damage to them, removes sufficient bone around a tooth to obviate unnecessary pressure dam-

age to bone that is to remain, uses slow, steady, and careful pressure in removing the tooth, never allows saliva to enter the socket, carefully peels out any granulomatous region, trims all

sharp and prominent margins of bone, removes all bone that has been damaged by an elevator, and sutures the soft tissues over the socket to protect it.

ACTH AND ORAL SURGERY

From Jour. of Oral Surgery

Q.—What significance has the administration of ACTH and related new hormonal therapy to minor oral surgery?

A.—The complete activity and side reactions of these compounds are not fully understood and any answer would be premature and carry with it implied reservations. However, in view of the reported delay in fibroblastic proliferation and retarded healing produced by these drugs it would appear logical to postpone all elective surgery until several weeks after they have been discontinued. This may prove to be only academic but must be recognized for

the present. Repair of sockets demands full efforts of regeneration and repair. In a small series of emergency extractions during or shortly after concurrent ACTH administration no complications occurred. Patients receiving this hormonal treatment are vulnerable to severe infection without its usual clinical manifestations and the oral field may be the source of such infection. For this reason correlated antibiotics are given in the management of these patients to combat such masked infection. Further research will help us to see the implications of these drugs to our field.

AUREOMYCIN: ITS USE IN THE TREATMENT OF ACUTE ALVEOLAR ABSCESSES IN CHILDREN

by GORDON H. ROVELSTAD, D.D.S., M.S.D., and COSMO R. CASTALDI, D.D.S., Chicago

Condensed from Jour A.D.A., July, 1951

Acute infections arising from non-vital infected teeth have presented many problems to the dental profession through the years.

An effort has been made to compare the clinical course of infections treated by the methods prior to chemotherapy and those treated after. Also, a more recently developed antibiotic, aureomycin, was studied to determine its effectiveness as well as its practicability for use by the dental profession in the treatment of acute alveolar abscesses.

Experimentally, aureomycin has been found to act in vitro as a bacteriostat and, at high concentrations, as a bactericide. It has been found to be effective against a wide variety of pathogens.

Occasionally, some degree of nausea, vomiting or diarrhoea has been noted,

particularly in ambulatory patients, although it has rarely been necessary to discontinue the drug on this account.

Dosages of 5 to 10 mg. per kilogram of body weight of aureomycin given orally at six hour intervals, ensure the persistence of measurable blood levels. The method of choice for administration is by the oral route. Because of its tendency to irritate tissues, intramuscular injections are not recommended. It is recommended, however, that if aureomycin is given orally over extended periods of time, the possibility of interference with the intestinal synthesis of vitamins makes it advisable to supplement with vitamins.

The accepted dosage is 25 mg. per kilogram of body weight daily, divided into four equal doses. Full dosage should be continued beyond the time

when the temperature becomes normal.

Because aureomycin is extremely effective when administered orally and because of its low acute, subacute and chronic toxicity, and inasmuch as most organisms do not apparently become resistant to it as they do to some of the other antibiotics, this drug appears to possess certain advantages that would make its use in the treatment of acute dental infections by systemic administration extremely practical.

All of the cases treated by aureomycin therapy have been treated since September 1949. Only the patients who evidenced typical symptoms of an acute alveolar abscess were included in this study.

The aureomycin was used in two forms: 50 mg. capsules which were used for the older patients who were able to swallow them, and Spersoid (a chocolate powder containing 50 mg. per

3 Gm., or rounded teaspoonful) which was used for the younger patients.

The patients ranged in age from 3 to 13 years.

Needless to say, the source of the infection must be removed after the infection is resolved in order to avoid recurrence.

Complications need no longer be feared from the extension and spread of an acute alveolar abscess, management of the infection is more efficient, and the unpleasant experience of incision for drainage is reduced to a minimum. As a result of this, hospitalization time has been reduced and even eliminated. The advantages these factors offer to the child patient are of great importance because a plan of treatment can be instituted that is definite and effective, and yet requires little cooperation by the child.

FACTORS INFLUENCING THE ACCURACY OF REVERSIBLE HYDROCOLLOID IMPRESSIONS

by RALPH W. PHILLIPS, B.S., and Ben Y. Ito, Indianapolis

Summary of paper in Jour. of A.D.A., July, 1951

Microscopically accurate dies can routinely be secured with proper use of the hydrocolloid technique. When a standardized and sound procedure is followed, reversible hydrocolloid is unexcelled as an impression material. However, many of the variables involved in its use remain to be studied and there are conflicting ideas concerning certain phases of the technique. The accumulation of data such as is presented here will eventually lead to a universally accepted procedure.

A method for measuring the dimensional change of hydrocolloid in the dental tray has been described. These measurements have been correlated with practical dies made for critical cavity preparations. The results depicted here are representative of those obtained on over 3,500 individual stone dies.

None of the five hydrocolloids tested was stable in media of air, tap water,

100 per cent humidity or 2 per cent potassium sulphate. The best storage medium varies for each hydrocolloid, but in no instance can accurate dies routinely be produced from impressions which were stored for as long as 30 minutes, regardless of the media employed. All impressions should be poured within 15 minutes after removal from the mouth.

If an impression is allowed to dehydrate, subsequent immersion in water before pouring does not produce an accurate die. One of the factors which makes it impossible to compensate for syneresis by immersion in water is that the dimensional change varies in different areas of the impression.

On removal of the die, some permanent deformation occurred with all of the hydrocolloids tested. The amount of deformation varied with the hydrocolloid. The greater the undercut, the greater is the distortion and the data

secured indicate the importance of a snap removal rather than a slow teasing out of the impression.

In order to minimize stress in the

hydrocolloid, the tray should be well centered in the mouth and the impression should not be chilled with ice water.

CELLULITIS AND SIALOLITHIASIS (SALIVARY CALCULUS)

From Jour. of Oral Surgery

Q.—We were recently confronted with a problem of massive swelling from combined submaxillary duct obstruction by a posteriorly lodged calculus and severe cellulitis from a secondary infection. What would be the proper course of treatment?

A.—Such a clinical picture is not uncommon and often the surgical inter-

vention for removal of the calculus is made both difficult and hazardous by the associated cellulitis. Control of the cellulitis by antibiotics and hot intra-oral irrigations should precede the removal of all but the most superficial calculi in such a situation. Mild irradiation may reduce obstruction symptoms as a means of temporary relief before surgical intervention.

COMBINATION OF ANTIBIOTICS

From Jour. of Oral Surgery

Q.—In the management of refractory infections is there any advantage in combining penicillin with other antibiotics such as aureomycin, chloromycetin, or terramycin?

A.—On the contrary, definite incompatibility exists between penicillin and antibiotics of this group. No incompatibility seems to exist with penicillin and streptomycin but the latter

is seldom indicated in most infections of the mouth and jaws. Good principles in using antibiotics are to strike fast and hard, giving high therapeutic dosages. If there has been no favorable clinical response after 48 hours the type of antibiotic may then be changed. A knowledge of the type of organism and its antibiotic sensitivity is extremely helpful in infection management.

SILVER NITRATE THERAPY IN VINCENT'S STOMATITIS

by WILLIAM J. HOGAN, D.D.S., New York, N.Y.

Condensed from N.Y. State D. Jour. Nov. 1950

The caustic action of the silver nitrate is sufficient to kill the invading organisms of fusiform bacilli and *Spirochete Vincenti* without permanent damage to the oral mucosa.

In less severe cases one treatment will suffice, while in the more acute cases presenting considerable mucosal involvement and Herpes of the lips, the recovery time can be accomplished in a maximum of 3 to 4 days.

Throughout the writer's military

service, extending over a period of 5½ years, he continued to use 15% silver nitrate in topical application form in the treatment of Vincent's Infection and did not see a single case that did not respond to this form of therapy regardless of the virulency of the infection.

The writer feels that silver nitrate therapy in the treatment of Vincent's stomatitis is exceptionally efficacious. It cuts down the length of time that the patient suffers from the disease.

The caustic action of the drug, when carefully handled, need cause no concern on the part of the operator or the patient. Armamentarium is inexpensive—not subject to change due to temperature variations. The method

of treatment is simple, uncomplicated and has produced no side reactions, allergic discomforts nor unfortunate sequelae of any type such as are occasionally associated with the use of the newer antibiotics.

EPILEPSY AND EXTRACTIONS

Q.—Is the ambulatory epileptic patient a safe risk for office oral surgery?

A.—If the patient is controlled by anticonvulsant drugs and has received his daily dosage of this medication, there is little danger of seizure se-

quellae to extraction procedures. Relieving apprehension with barbiturate premedication before any minor surgical procedure or office stress situation is indicated for these patients.—*Jour. Oral Surgery.*

EXPERIMENTAL PERIODONTAL REATTACHMENT IN RHESUS MONKEYS

by SIGURD RAMFJORD, L.D.S., M.S., Ph.D., Ann Arbor, Michigan

Summary of paper in Jour. of Periodontology, April 1951

1. Both connective tissue and epithelial reattachment was observed on root surfaces that had been exposed in an inflamed periodontal pocket.

2. Removal of the epithelial lining of the periodontal pocket was necessary to obtain reattachment.

3. The degree of inflammation in the

area of healing appeared to determine whether the reattachment would be epithelial or connective tissue in type. The least degree of inflammation was associated with connective tissue treatment.

4. In one case of severe gingival inflammation no reattachment was obtained.

BALANCED OCCLUSION WITH PARTIAL RECONSTRUCTIONS

by GOSTA LINDBLOM, L.D.S., Stockholm

Summary of paper in International D. Jour March 1951

The modern dentist must realize that the final aim of all dental treatment should be to make the functional condition of the bite as consistent as possible with physiological state, so that there is restoration of the ideal function of mastication and much longer preservation of the remaining teeth in a healthy condition.

Careful bite analysis and treatment planning should precede every attempt at dental restoration.

Present knowledge of bite-opening, based upon experience and radiographic study of the mandibular joint, can be summed up as follows: Any attempt

to increase the vertical dimension by more than 3 mm. is a hazardous undertaking and should be carried out only after careful bite analysis and special x-ray study; moreover it calls for considerable clinical experience. To increase the vertical dimension up to 3 mm. is a comparatively safe undertaking, but should never be attempted without a careful preliminary bite analysis.

A careful initial study of the wear on the occlusal surfaces of the remaining natural teeth will afford valuable guidance for the planning of a partial reconstruction.



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Editorial

OUR ADVERTISERS

Some 100 years ago Alexander Smith wrote: "If you have once planted a tree for other than commercial purposes . . . you care more for it than you care for all the forests of Norway or America. YOU have planted it, and that is sufficient to make it peculiar amongst the trees of the world."

About sixteen years ago the Canadian Dental Association decided that it wanted its own official journal, a journal over which it had complete control, a journal that would stand for the highest and best in the field of dental literature, a journal that would represent the Canadian dental profession in foreign lands, a publication through which the decisions of those elected to positions of authority in our Association could be transmitted to every dentist in Canada from the Atlantic to the Pacific. So in this spirit the Journal of the Canadian Dental Association, Le Journal de l'Association Dentaire Canadienne was born, and because we begat it this journal means more to us than all other journals.

At that time our membership dues to the C.D.A. were extremely low and half of this sum was turned over by the Governors to the Journal Committee to help in publishing the Journal. Needless to say this task could not have been carried out without the splendid help of our advertisers. In those days, and for a long time since, most of our advertisers were prepared to support our journal liberally and faithfully, which was the only right course since they are largely dependent upon the goodwill of our profession. This co-operation has been greatly appreciated, for without their assistance our annual dues would have to be much higher than at present in order to con-

tinue publishing the journal. My conclusions are based upon the fact that I belong to a specialists organization which publishes a journal, without any advertising, four times a year, and the annual dues are twenty-five dollars, most of which is needed to publish the Journal.

Publishing costs like everything else have increased tremendously resulting in difficult financial problems in producing the Journal. However, the meeting of these increased costs must not influence the established policy of keeping the Journal on a high ethical professional level at all times.

At the present time problems have arisen with some of our largest advertisers which deserve immediate consideration. Carlyle said: "Our grand business is not to see dimly in the distance, but to do what lies clearly at hand." We have been told by some advertisers that nothing should appear in our text contrary to the statements contained in their advertising. This will never be, for above all we want our readers to know the truth, and not infrequently advertising has to be turned down because it does not conform to our standards. We have been asked by large advertisers for space at reduced rates, but this also has been refused by our capable business manager, Dr. Gullett, in fairness to our smaller advertisers. We have been threatened with complete withdrawal of material by large advertisers if their demands were not met and, in fact, at the time of writing certain advertising has been withdrawn for the reasons given. Of course, these men will still advertise, for life depends upon it, but they will use other journals or direct advertising, having not the slightest regard for the profession that feeds them.

Is there nothing we can do about this problem? There is much we can do about it. Someone has said "To follow you I'm not content until I know which way you went," so we have outlined our policy now and for the future, and we do seek the cooperation of every Canadian dentist in supporting the advertisers who support us. When you receive a piece of direct advertising, note whether or not it is a reprint of advertising from some other journal, or whether or not our journal is used for advertising purposes. Let us cooperate with those who cooperate with us. We expect consideration. Let us be considerate of those who are not only interested in their own products but, likewise, show interest in the dental profession and seek its welfare.

In these days it is customary for certain manufacturers to place their advertising in the hands of advertising firms or agents. If you were a manufacturer would you be willing to place your advertising in the hands of a firm who tried in any way to boycott the organizations which you wished to serve?

This is the problem. The Journal is the tree which we have planted and we are not going to see that tree stunted in its growth by anything which can be avoided. We seek your cooperation and we seek it now!

M. H. G.

*Arise, and get thee forth and seek
A friendship for the years to come.—Tennyson.*

CORRESPONDENCE

EUROPEAN ORTHODONTIC SOCIETY

Letter to Dr. R. R. McIntyre, Calgary, Alberta.

It is some time ago now that—as representative of the foreign countries—we were sitting together on the platform to take part in the International Lunch of the American Association of Orthodontists in Louisville.

You will be interested to hear, that I was chosen as president of the European Orthodontic Society for 1952.

In 1952 the congress of this Society will be held from July 14-17 in Amsterdam and the main subjects to be dealt with are:

"Early Treatment"

"Social Orthodontia".

These dates are chosen because the congress of the F.D.I. starts on July 19, 1952 in London.

Many American, Canadian and Cuban colleagues are expected to be present. Perhaps this may be a reason that orthodontists come over to Holland to attend the congress of the European Orthodontic Society.

Will you please be so kind as to interest the Canadian colleagues in our congress by announcing the meeting in your dental reviews?

Signed: J. A. C. Duyzings
Utrecht, Netherlands.

BOOK REVIEW

EXPERIMENT IN DENTAL CARE

Results of New Zealand's Use of School Dental Nurses by John T. Fulton, D.D.S., Dental Services Adviser, Children's Bureau, Social Security Administration, Federal Security Agency, Washington D.C., U.S.A. World Health Organization: Monograph Series No. 4, 87 Pages, Price \$1.00. Canadian Agent: The Ryerson Press, 299 Queen St. W., Toronto, Ontario.

A study by Dr. J. T. Fulton entitled "Experiment in Dental Care: results of New Zealand's use of school dental nurses" has now been published as No. 4 in the Monograph Series of the World Health Organization. This is the third report to appear in print during recent months of investigations of the New Zealand Scheme. A few months ago a report was published by Dr. A. Gruebbel, who carried out an investigation in New Zealand under the auspices of the American Dental Association. More recently, a report upon the same matter was issued by the British Ministry of Health resulting from an investigation by a government commission composed of four dentists who were sent to New Zealand to investigate the service. These three reports vary considerably in statement but the present one more closely agrees with the British report. Added to these is a report by Dean R. G. Ellis, who made an investigation of the service while in New Zealand last year at the request of the Health Insurance Studies Committee of the Canadian Dental Association.

Dr. Fulton carried out his investigation un-

der a WHO Fellowship and spent 40 days in New Zealand during which he examined some 4000 children. He reports "that the prevalence of dental caries is high in the average New Zealand school child but much of it has been treated". Some 82% of the amalgam fillings examined had been performed by dental nurses. The service is reported to be of high quality. The report is of a factual nature and for the most part lends weight to the affirmative side of the controversy about the scheme now taking place in several countries. However, some statements made in the report cause doubts to arise in the mind of this reviewer.

To quote: "In the last analysis, the primary purpose of dental care for children is to assure a well functioning dental apparatus during the growth and development period". We fear that this statement is altogether too true of the scheme and constitutes one severe objection. Surely in our modern concept of dental health we do not believe this to be "the last analysis" or "the primary purpose". It is one objective. We believe that the first consideration of great importance is the establishment in the mouth of the child of a foundation for the future mouth health of the individual throughout life which is a very different approach to the problem.

Figures are given indicating that a very high percentage of the children examined had received dental treatment which is most creditable. The percentage is probably higher than for any other country. To one who is examining the scheme objectively and from the stand-

point of prevention, the following paragraph contained in the report gives rise to question. "Of further interest is a study made from 1949 records of a cross-section of dental benefit patients. Our records, selected at random from each of 68 dentists' files, were tabulated for the total number of fillings required in the first treatment after leaving the school dental clinic. The 680 records showed a total of 2,136 fillings so needed, or an average of 3.1 fillings per patient".

Again to quote from the report—"The fact that 45% of the young men called up for service were artificial denture cases (21% completely edentulous) (Fuller) suggested the need of a reorientation of dental practice in the Dominion". This statement is made in support of the need for the extension of the school dental service into adolescent years. A

natural inquiry is how could this situation occur among a generation which has passed through the school dental service.

The report is well written, the subject matter being presented in excellent form. Dr. Fulton made his study on a basis planned by a group of expert consultants who met in Washington preceding his visit to New Zealand. Undoubtedly this report will be carefully studied by authorities in many countries as a possible answer to a question which is pertinent today.

Possibly it will be considered unfair to take certain sentences out of their context as has been done here above. However, this matter must be critically studied not only in the light of the school age group, but also, as to its consequences in the life of the individual citizen and for the public good.

DON W. GULLETT

ROYAL CANADIAN DENTAL CORPS NEWS

Colonel E. M. Wansbrough, OBE, MM, ED, Director General Dental Services has been promoted to the rank of Brigadier. A veteran of two world wars, Brig. Wansbrough was awarded the Military Medal for gallantry in action during the first World War. During the interval between the wars he served as an officer with the NPAM. In November, 1939, he was appointed to the Canadian Dental Corps, CASF, and proceeded overseas in 1942. He served as assistant director of dental services in the United Kingdom for the Royal Canadian Air Force until 1945. After his return to Canada he was appointed deputy director of dental services for the RCAF at National Defence Headquarters, Ottawa. In September, 1946, he was appointed Director General Dental Services.

No. 3 Coy. R.C.D.C. (R.F.) with Headquarters at Edmonton, Alberta, and commanded by Lieut-Col. W. R. Stuart has been selected as the winner in the 1951 Moore Trophy Competition. The trophy will be presented by Honorary Lieut-Col. S. A. Moore to the representative from No. 3 Coy. at the Defence Dental Association dinner to be held on September 27 in Ottawa.

No. 20 Canadian Field Dental Detachment, R.C.D.C. (A.F.) now serving in Korea under the command of Lieut-Col. G. E. Shragge has as its Dental Officers, Majors H. S. Lankin, R. E. Brown, G. C. Evans, Capts. J. R. Harms, F. M. Nesbitt, J. M. A. Donely, W. O. Mulligan, L. V. Crowley and P. S. Sills. The Quartermaster is Lieut. W. J. Thomson.

CANADIAN DENTAL ASSOCIATION NEWS

FROM THE OFFICE OF THE SECRETARY

Health Insurance News Items: The following news article appeared on August 21 last:

Ottawa to Study Health Insurance In '52 Session

Ottawa, Aug. 20, 1951—Whatever else it may do between now and the next general election the St. Laurent Government has no intention of allowing the subject of social security to fall by the wayside.

The coming special session in October, regardless of other important legislation

that may be passed, will be remembered for the passing of old age pension legislation. With this still in the offing, plans are already under way for setting up a special committee in the 1952 session to study health insurance.

The committee will probably follow something the same pattern as that on old age security in 1950, exploring health schemes in other countries and probably coming up with some form of recommendation. Action, however, may not be as speedy. Old age pensions were largely a straight financial matter of deciding a

reasonable amount that could be paid and making a preliminary exploration of ways that it might be raised.

Health insurance involves the far more complicated problem of providing services. Medical care alone means discussions with the profession and establishment of a system that will be generally satisfactory to the profession. Other facilities must be available to carry out any program along the lines of that laid down in the government's proposals of 1945.

In spite of the fact that since 1948 the provinces and municipalities, with federal government assistance, have increased hospitalization by 25,000 beds, there is still a deficit of about 15,000 on the basis of the 1948 estimate.

Above all, there are the arrangements to be made with the provinces, which will be a much more involved business than getting agreements on an old-age pension that was to be paid by the federal government. The health program will be mainly a provincial responsibility. So far as the federal government is concerned it will really be an extension of the grants in aid already launched. So far as federal financial assistance is concerned, there will not even be the pretense of an ear-marked contributory scheme.

Even in the case of old-age pensions, this front of a contributory scheme is beginning to wear thin, and as time goes on it seems to be apparent that the so-called contributions will be indistinguishable from any other increase in taxation.

Establishment of Dental Clinic as Memorial: The Memorial Hospital for Shelburne County (Dental Clinic), Nova Scotia, was made possible by the generous bequests of the late Dr. and Mrs. Gurdon R. MacKay. Dr. MacKay was a native son of Shelburne County who spent most of his active life practising dentistry in Boston, Mass. On his death, he left his estate to his wife with the request that she in turn carry out his expressed wish to found a hospital for Shelburne County. Mrs. MacKay lived to see Roseway Hospital in operation and she in turn willed the residence and balance of the estate of the late Dr. MacKay plus some of her own personal funds to found a dental clinic for the children of Shelburne County.

This dental clinic is intended to provide as much dental care as possible for the children of Shelburne County who are *not at the present time receiving regular dental attention*. Due to the limited funds available to the clinic, it will not be possible to render as complete a service as a private dental practitioner can render. It is to be understood that the clinic is not intended to supersede

existing arrangements for regular dental care.

Since it will not be possible to attend to all the dental needs of the entire school age population of Shelburne County, the Trustees of this Memorial Clinic have decided on the following plan of operation:

1. For the first year of operation starting in September 1951, the clinic will operate for approximately 200 mornings (Monday to Friday) from 9 a.m. to 12 noon.

2. The proposed age groups to be given dental treatment are as follows:

1st year of operation—

Pre-school (who are over 5 years of age)
Primary
Grade I
Grade II

2nd year of operation—

Pre-school (who are over 5 years of age)
Primary
Grade I
Grade II

Plus those children now in Grade III who attended the Clinic the previous year.

3rd year of operation—

Pre-school (who are over 5 years of age)
Primary
Grade I
Grade II

Plus those children now in Grade III and IV who attended the Clinic during the last two years.

This progressive extension of the scope of the clinic will continue until the capacity of the clinic is reached. The children reporting for the first time are expected to have more dental needs than those who are receiving annual dental maintenance.

3. Each community will have to make their own arrangements for transporting the children from that community to and from the dental clinic. An adult from the community should accompany each group of children and be responsible for discipline of the group awaiting treatment at the clinic. As this dental clinic will be located in the residence formerly occupied by the late Dr. MacKay in the town of Shelburne, it is not expected that any great problem will arise in arranging for appointments for the children of the town of Shelburne.

Children from the other sections of the county will be as much as possible looked after during the months of September, October, November, April, May and June. Those from the Shelburne town schools and those schools in the area served by the Shelburne school buses will

be looked after in December, January, February and March.

The policy of this clinic will be to render as complete dental service as is possible. To enable the Board of Trustees to make suitable arrangements for the operation of the clinic each community in the county is requested to form a dental committee.

As far as it is known this is the first dental clinic of this type to be established in Canada through private philanthropy.

Dental Nurse Plan proposed in Britain

—Announcement has been made by the British Ministry of Health that Parliament will be asked to approve a bill authorizing dental nurses to extract and fill children's teeth. Statement was made that the plan would follow closely the New Zealand arrangement and that dental nurses would receive two years of training after which they would become salaried employees of the government. The course of the government is not unexpected as an outcome of the report of the British Government Commission recently sent to New Zealand to study the service. The Health Ministry said the bill was proposed because the majority of dentists in the school service had resigned in order to be eligible for the higher fees the government paid for dental service for adults. The introduction of the National Health Service Act in Britain in which provision was made for mass dental treatment for all ages resulted in neglect of the most important age group. In order to cope with the situation thus created, it is proposed to have the dental services which probably mean most to the future dental health of the individual, performed by half-trained personnel.

Federation Dentaire Internationale urges world-wide fluoridation:—Promotion of such preventive techniques as fluoridation of public water supplies was urged for nations throughout the world at the 39th annual meeting of the Federation Dentaire Internationale June 9-17 at Brussels, Belgium.

The resolution on fluoridation follows: Resolved, That the F.D.I. urges all agencies interested in dental and general health to give the most careful consideration to the promotion and use of fluorides in the control of dental caries, and be it further

Resolved, That the F.D.I. strongly urges all nations to focus their attention and resources on the prevention of dental caries through effective programs of oral hygiene rather than on a program of unending terminal treatment for persons already dentally disabled by neglect and disease.

Twenty nations were represented at the Brussels meeting.

Dentistry under the British system:—(The following letter appeared on page 299 of the May 28, 1949, issue of the *British Medical Journal*.)

"Sir:—My dentist, who recently entered the Health Service, has attended to my teeth for many years. He has by various forms of treatment kept my teeth and gums in good condition. He found, under the regulations of the Service, that he had to apply for special permission to be paid for this form of treatment. The reply was to ask for an examination by an inspector from the Dental Estimates Committee, and this duly took place.

"Now, although I was in my 68th year, I still had 23 teeth, many of them, of course, with fillings in them. The result of the inspector's examination was that he recommended that 13 teeth should be removed. This included my nine remaining molars, which were quite useful teeth, and many of which my dentist held to be serviceable for a number of years. My dentist's reply was that he would absolutely refuse to do this, as he considered it dangerous to my health, was unnecessary, and also bad dental treatment. I quite agreed with him and told the inspector that I should on no account consent to such a procedure. I am in excellent health and there seemed absolutely no reason for removing the teeth. There was, it is true, alveolar absorption, but the gums were in a healthy condition and the teeth were useful biting teeth. There was only one—under treatment—which was causing any active trouble, and also one which required to be filled. My dentist considered that it might cause very severe injury to my health to remove all these teeth, and I have personally known cases in which this occurred when a large number of teeth were removed.

"Surely it is absolutely wrong that the Ministry officials should attempt to dictate to a dental surgeon what his treatment should be. If the Act leads to proceedings like this it must be a very bad Act.—I am, etc."

London, W.I.

N. S. Finzi

The following letter was recently distributed by the British Columbia Dental Association to all dentists practising in British Columbia. The subject deals with a problem which exists more or less in every province as well as in states to the south of us.

British Columbia Dental Association Special Bulletin

A surprisingly large number of the Dental Profession in British Columbia

are of the opinion that the Dentistry Act is on the Statute books of the Province for their protection. This is entirely wrong. The Dentistry Act is primarily for the protection of the Dental Health of the public and to ensure, as far as is possible, that the standard of dental practice is kept on a level consistent with these aims.

As a member of a profession, you are expected to make the welfare of the patient your primary consideration. You are entitled to an adequate financial return, but some dentists become so engrossed in making money that they forget their professional obligations. The tolerance and sympathy of the public toward unethical laboratories is based largely upon their reaction to what they consider to be excessive dental fees.

As is probably well known to all the members of the profession in British Columbia, the making of artificial dentures for the public, by commercial laboratories, has reached alarming proportions. This situation has been brewing for several years and has been brought into sharp focus by the recent amendments to the Dentistry Act. What was formerly under cover has now been brought out into the open and become more or less a public issue.

From the legal standpoint, the best of counsel is being employed and everything possible being done by the Council of the College. But you, as an individual member, have also a responsibility and there is much that you can do.

Roughly, the commercial laboratories may be divided into three categories. There is, first the lab, which is doing only "bootleg dentistry" and is not interested in doing technical work for dentists. These can be handled only by legal action. Secondly, there is the lab, which is receiving technical work from dentists and making dentures for the public on the side. Thirdly, there is the ethical laboratory which wants to remain ethical and maintain a high standard of technical work. These last two classifications are of particular interest to you.

The Lab. that Receives Your Technical Work and Makes Dentures on the Side. These labs. make a regular practice of cutting prices for your technical work and are able to do so because they are making dentures for the public. There are dentists who, although fully aware of this situation, are continuing to deal with this type of laboratory. The ethical laboratories are finding it very difficult to meet this competition and are looking to the dentists for help and support.

The spiralling cost of operating a business and the ever increasing cost of living has been to a large extent absorbed by

laboratory operators with the result they find themselves in a very difficult position. In accepting a measure of the responsibility for this condition, the dental laboratories feel that some of the onus should be placed on the dental profession. Some dentists have consistently thought of price only in their dealings with dental laboratories and through this attitude have made it most difficult for a laboratory to remain ethical. This is a very serious situation and calls for a little thought and foresight on the part of the dental profession.

The ethical laboratory: These men have no desire to break a law that was designed to guard the dental health of the public. They wish to remain ethical and maintain a high standard of work, but, they must be assured an adequate income. If the dental profession is not prepared to support them, they too may be forced to become law-breakers. The dentist, who patronizes a lab. because of its low prices, ignoring quality, is taking a very short-sighted attitude.

The B.C. Laboratory Owners' Association and the Vancouver and District Dental Laboratories Society: These two organizations represent the ethical laboratories. They can survive, only if every dentist in British Columbia gives them his unqualified support. That is YOUR responsibility. Your profession is depending on you to make it your business to see that YOUR laboratory is above reproach.

This situation is a direct result of war conditions. It is not peculiar to British Columbia; it is country-wide. Dentistry has a long hard fight on its hands. It is up to YOU.

To each member of the Dental Services Committee is being forwarded a tentative copy of the **Civil Defence Health Services Manual**. This manual is the result of the discussions at a series of meetings attended by the Secretary as a member of this Working Party during the past few months.

The following paragraphs are taken from a letter accompanying the submission of the manual:

"The first sections of the Civil Defence Health Services Manual have been completed, copy of which is enclosed. Five additional copies are being forwarded under separate cover. The preliminary sections deal with the following: General Information on Civil Defence Health Services, Methods of Estimating the Number and Types of Casualties, First Aid and Ambulance Services, Hospital Arrangements, and Laboratories. Other sections at present under preparation will cover such aspects as Water, Sanitation Services, Mental Health, Industrial

Health, Epidemiology and Health Statistics, Mortuary and Burial Services, and other subjects relevant to the civil defence health service program. The manual will be available in both French and English.

"The material describes functional needs rather than an administrative blueprint, and it is intended to provide a general pattern which will serve as a guide to provincial and municipal planners. Your comments, suggestions, and criticisms are invited as it is appreciated that this first effort can only be consider-

ed as tentative and that actual planning, particularly at municipal level, may call for considerable revision in the future. The material will be kept up to date and revised as required.

As you know, a working party technique is being used to develop this program, and to date about 40 Canadian experts have served on the various working parties. In addition, we have worked closely with civil defence health service authorities in the United Kingdom and the United States and have made wide use of their publications."

NEWS FROM THE PROVINCES

NOVA SCOTIA

At the 61st Annual Meeting of the **Nova Scotia Dental Association** held August 12, the following officers were elected: President, Dr. J. A. Tupper, Lunenburg; 1st Vice-President, Dr. P. S. Christie, Halifax; 2nd Vice-President, Dr. Hardy Parker, Sydney; Secretary, Dr. Borden Haverstock, Halifax; Executive member, Dr. A. D. MacGregor, Truro.

Delegates to the Canadian Dental Association are Dr. G. M. Dewis, Halifax with Dr. J. P. McGuigan, Halifax, as alternate.

Officers elected to the Provincial Dental Board are: President, Dr. J. H. Rice, Halifax; Vice-President, Dr. H. M. Eaton, Halifax; Secretary-Registrar, Dr. G. M. Dewis, Halifax.—*Chronicle Herald*.

ALBERTA

At the Annual Meeting of the **Alberta Dental Association** the following officers were elected: President, Dr. C. D. Husband, Red Deer; Vice-President, Dr. H. R. MacLean, Edmonton; Secretary-Registrar, Dr. R. A. Rooney, Edmonton; Retiring president, Dr. A. C. Steeves, Calgary.

Additional members of Board of Directors, Dr. James Zimmerman, Calgary; Dr. Ross Gibson, Medicine Hat; Dr. A. C. Antens, Lethbridge; Dr. W. E. Addinell, Edmonton.

Alberta dentists have completed their fourth year of voluntary work for persons unable to afford proper care. In this group are included old age pensioners, widows and their children, and the blind.

The services range from examinations to complicated treatments. The straightening of children's teeth is one of the most important features of the service.

The Alberta Government provides the association with funds to cover the costs of materials used but the actual treatments are given without charge by the dentists.—*Calgary Albertan*.

ONTARIO

Northern Ontario Dental Association held its annual meeting at Timmins on September 8. It was while practising in this city eleven years ago that Dr. S. Lee Honey conceived the idea of forming a dental society to serve the dentists throughout the Northland Community. Dr. S. Lee Honey implemented his idea into being and this society has grown in interest throughout its eleven successive years of activity.

This year's meeting was pervaded with a certain gloom and apprehension because of the flying accident to the secretary-treasurer, Dr. Henry Hudson. He had been away for a short fishing trip but had not returned, and searchers' efforts have been in vain up to the time of this writing. Hope however has not been given up because Dr. Hudson was known by all for his ingenuity and resourcefulness.

Dr. I. T. Brill, president of the association carried the meeting through to a successful conclusion. Dr. George Morgan, and Dr. Mark Boyes, both of Toronto, provided the scientific program to the satisfaction of all members.

Those given places of honour at the luncheon table were Dr. R. O. Winn, President of the Board of the Royal College of Dental Surgeons of Ontario; Dr. W. Prendergast, President of the Ontario Dental Association; Dr. Sidney Woollatt, faculty of Dentistry; Dr. Don W. Gullett, Secretary, Canadian Dental Association and Dr. S. Lee Honey together with the Mayor of Timmins and the Reeve of Tisdale Township.

Ladies attending the Meeting were entertained throughout the day by a Ladies' Committee then joined the men for the usual president's dinner and dance, where everyone had fun and a good sociable evening.

The meeting for 1952 will be held in Kirkland Lake. The new officers are: President Dr. A. W. Boyd, Kirkland Lake; Vice-President, Dr. S. P. Smith,

New Liskeard, Secretary-Treasurer, Dr. G. W. Burgman, Kirkland Lake.

The death of **Dr. William C. Davy** removed a well known dentist and highly respected citizen from Eastern Ontario. He had lived a very active life, and although suffering from leukemia for the past two and one half years, he continued as usual until five days before his death. He has served dentistry well, and still had time for many activities.

He was a member of the I.O.O.F. for 53 years; a life member of Excelsior lodge A.F. & A.M.; where he served 3 terms as Master, a life member and secretary of St. Johns Chapter and was D.D.G.M. of Eastern District in 1914; a life member of Gandonar Preceptory No. 16 and a life member Rameses Shrine. He was a member of Xi Psi Phi Fraternity, a founding member of Morrisburg and district Canadian Club, a member of Morrisburg Curling Club and Morrisburg Fish and Game Club. He served for six years as member of the Board of Education and one term on the Village Council.

During World War 2 Dr. Davy took charge of the local Blood Donor's Branch of the Canadian Red Cross Society.

He was a member of Morrisburg United Church and for 25 years a member of its choir. He was interested in younger people and their activities.

For recreation he enjoyed fishing, hunting and curling but perhaps he got a greater thrill out of his gardening. His garden was a show place.

Reflecting on the achievements of Dr. Davey, it is amazing what can be accomplished with a will to be a useful citizen. His work is a great monument to him, and so his memory will linger with so many who knew him so well.

QUEBEC

Plans are nearing completion for the **Twenty-seventh Annual Fall Clinic of the Montreal Dental Club** to be held in the Mount Royal Hotel, Montreal, November 21-23. As was previously announced, the Fall Clinic is being held in November this year instead of October as has been the practice in the past; this change was made for 1951 so as not to interfere with the annual meetings of the Canadian Dental Association and the American Dental Association. The full program for this ever popular convention is as follows:

WEDNESDAY, Nov. 21

A.M. 9.00 to 12.00 Noon — Registration
... Table Clinics ... Visual Education ...

P.M. 1.00—Luncheon.
2.30—Film—"How to Avoid Malpractice Suits."

3.00—Dr. William Ward Wainwright, Chicago, Illinois.
Subject — "Dental Applications of Atomic Energy."

4.15 to 6.15—First Session of Progressive Clinic.

Capt. A. H. Grunwald, (DC), U.S.N., Bethesda, Md.

"Factors Essential to a Satisfactory Full Denture Service."

6.30-8.30—Montreal Dental Nurses and Assistants Association—Reception.

Free Evening.

THURSDAY, Nov. 22

A.M. 9.30—Dr. Reuben N. Albinson, Minneapolis, Minnesota.
Subject—"Mucostatics"

10.45 to 12.00 Noon — Registered Clinics.

1. Dr. R. N. Albinson, Minneapolis, Minnesota — "Mucostatics."

2. Dr. J. H. Johnson, Toronto, Ontario. — "A Practical Review of the General Practitioner's Problems in Oral Surgery."

3. Dr. E. R. Romine, Detroit, Mich. — "Relation of Operative Dentistry to Periodontal Disease."

4. Dr. R. S. Voorhees, Jr., Rochester, N.Y. — "Radiography."

5. Commander R. B. Wolcott, (DC), U.S.N., Bethesda, Md. — "Operative Dentistry."

6. Dr. F. Shiere, Tufts College Dental School. — "Pedodontia."

P.M. 1.00—Luncheon — Speaker to be announced.

2.45 to 4.00—Registered Clinics repeated.

4.15 to 6.15 — Second Session of Progressive Clinic.

7.30—Dinner Dance—Mount Royal Hotel.

FRIDAY, Nov. 23

A.M. 9.30 to 10.30 — Dr. A. G. Racey, Montreal, Que.

Subject—"A Short Course in Oral Pathology."

10.45 to 12.00 — Registered Clinics repeated.

P.M. 1.00—Luncheon — Entertainment.

2.45 to 4.00—Registered Clinics repeated.

4.15 to 6.15—Third Session of Progressive Clinic.

In addition to the above, there will be special events for the ladies, a complete range of exhibits, a Visual Education Program, etc. For a preliminary program with complete details, please apply

to: Dr. M. L. Donigan, Chairman, 1414 Drummond St., Montreal 25, Que.

Plans for the 1951-1952 season of the **Montreal Endodontia Society** have been completed and from the office of the president, Dr. Walter S. Phelps, comes the announcement of the following program:

Sept. 17—Clinic at U. of M.—Dr. Geo. Zimmerman: "Opening Into Canal of Central Tooth."

Oct. 29—Clinic at U. of M. — Dr. R.

Medric Robichard: "Restorations After Devitalizations."

Dec. 10—Lecture at McGill U. — Dr. H. H. Pearson: "Electro-sterilization by Short Wave."

Jan. 28—Lecture at McGill U. — Dr. Louis J. Rosen: "Diseases of the Apical Area."

Feb. 25—Interesting and problem cases presented by members of the Society at McGill University.

Mar. 31—"Forum" under Dr. H. H. Pearson. Subject to be announced.

R.F.H.

BRITISH COMMONWEALTH NEWS

GREAT BRITAIN

£2,000 Fine Recommended: The London Executive Council have accepted a recommendation of the Dental Services Committee that the sum of £2,000 in addition to the fees charged should be withheld from the remuneration of a practitioner in respect of two cases treated by one of his assistants.

The Committee found that in one case six fillings and scaling had been completed at one visit of twenty-five minutes, of these, three were small occlusal fillings, another was unsatisfactory and in the other two there were no fillings, there being in one of them "slight indica-

tion of enamel damage caused by the application of an instrument to the occlusal aspect of the tooth." In the second case the Committee found that the treatment estimated for included 8 fillings and scaling. This had been completed in one visit of approximately thirty minutes. Six of the fillings were unsatisfactory and in each of the other two teeth no filling was present.

The Committee say that "it is apparent the chief concern of this dentist has been to get through as much work as possible in the shortest time and that scant consideration has been given to the question of the dental fitness of the patient."—Br. D. Jour., Aug. 21, 1951.

GENERAL NEWS

The formation of **Trans-Canada Medical Services** was the most important outcome of the 82nd annual meeting of the Canadian Medical Association in Montreal. The Prime Minister welcomed the announcement and added that "it would be a most happy solution if the medical profession would assume the administration of, and the responsibility for, a scheme that would provide prepaid medical attendance to any Canadian who needed it."

Trans-Canada Medical Services is now a full-fledged, national plan for prepaid medical care available to all Canadians though it is the firm aim of the medical profession to make it that. What is Trans-Canada Medical now? It is an organizing committee with members from seven doctor-sponsored provincial medical care plans. It is hoped that the two medical care plans in Quebec and the Maritimes, sponsored by hospital associations, will soon join Trans-Canada Medical.

There are four immediate values:

1. Large national employers will be able to arrange contracts covering em-

ployees in several provinces through Trans-Canada Medical rather than through the individual plans. This should be a spur to increased participation.

2. Transfer of contracts for people moving from one province to another will be possible without loss of plan privileges.

3. Trans-Canada Medical can act as a clearing house for information and statistics, as administrative counsel and otherwise assist provincial plans.

4. In discussions with the federal government Trans-Canada Medical can act as spokesman for the plans.

Perhaps here can be created a triumph of cooperation between doctors, citizens and governments which will give Canadians the best medical care in the world. If not, never let it be said that the doctors did not try.

Eighth Annual Dental Seminar, Palm Springs, Calif.:—Two hundred dentists, including top dental-medical researchers, will be in attendance at the Eighth Annual Dental Seminar, Oct. 28-Nov. 1.

A Parodontopathies Workshop will be

a major feature of the professional gathering this year, with the entire attendance divided into special study groups devoted to various phases of the problem.

Included in the program, to be discussed and analyzed at the meeting are the following important topics:

Practical physiological lung problems in the sedentary professional man.

Cancer of the oro-pharynx and respiratory system.

The role of infection in periodontal disease.

Aetiological factors in periodontal disease.

Studies on the defence mechanisms of the mouth and mucous membranes.

Nutritional disturbances in childhood, with particular emphasis on the celiac syndrome and pancreatic insufficiency.

The clinical laboratory in a children's hospital.

The structure and properties of tooth surfaces as studied by optical and electron microscopy.

Electron microscopy of dental tissues—including enamel, dentine, cuticle, epithelial attachment, etc.

Protein deficiencies via soil deficiencies.

Some new concepts concerning the role of sugar in dental caries.

The putrefaction of proteins in relation to periodontal disease.

Physicians' Art Salon:—With a total entry list not far short of 600 exhibits, the seventh Physicians' Art Salon made a successful appearance in Montreal June 18 to 22.

The most frequent comment was that this year's salon had "gone modern." To a degree this was true, since the salon did include a fairly large proportion of impressionist studies.

Science will fulfil what is demanded of it only on condition that it retains its freedom and independence in its work. In spite of all necessary limitations, liberty remains an essential characteristic of science, and spiritual and intellectual freedom is necessary for scientists. Every true scientist desires to serve his nation. His work, however, cannot be complete if it is merely a service to his nation.—Ferdinand Sauerbruch.

IN MEMORIAM

William Harold Hunter of Orillia died after a long illness on August 3 at the age of 54.

Dr. Hunter was graduated from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1921. On graduation he began his practice in Elmville for a short time, then moved to Orillia where he continued. During World War II he served in the Canadian Army Dental Corps.

As a citizen of Orillia Dr. Hunter was greatly interested in education and his church. He served on the town Board of Education for 10 years. He was a member of St. Paul's United Church and an elder for 25 years; he served as recording steward since 1931. As a younger man he taught in Sunday School and worked with the young people's society. He served on the executive of the general Council of the United Church of Canada and was president of Simcoe Laymen's Association and of the Toronto Conference Laymen's Association of the Church.

Dr. Hunter is survived by his widow, one daughter and two sons, Dr. Stuart and John, both of Orillia.

Edwin Ira Zinkan of Toronto died on September 10 at the age of 63.

He was graduated from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1899. He began practise in Southampton; later he moved to Toronto where he continued until his death. Dr. Zinkan held a D.D.S. degree from the Ohio School of Dentistry. He was made an honorary member of the Royal College of Dental Surgeons of Ontario in 1949.

Dr. Zinkan is survived by his widow, two sons and one daughter.

George Franklin Beldon of Toronto, died on September 10, at the age of 85.

He was graduated from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1890. He began his practice in Seaforth, later coming to Toronto where he practised until retirement 2 years ago. He was an honorary member of the Royal College of Dental Surgeons.

Dr. Beldon was a member of the Church of the Redeemer and of St. George's Society.

He is survived by his widow and two sons.

Benjamin S. Bailey of Vancouver, B.C., and formerly of Winnipeg, Man., aged 69, died August 13. He practised in Manitoba for more than 40 years, 30 years in Winnipeg, and retired in February 1950, moving to Vancouver.

For many years he was active in Masonic work and was former Potentate of Khartum Temple of the Shrine. He served for many years on committees which organized charitable and philanthropic work of the order and took a special interest in the Winnipeg Shriners' Hospital for crippled children. As Supreme Grand Master of the Sovereign Great Priory, Knights Templar, he presided two years ago at its 66th general assembly in Winnipeg.

He was also a prominent horticulturist and was one of the first members of the Winnipeg Gladiolus Society. He was frequently called upon to act as a judge in horticultural exhibitions.

Dr. Bailey is survived by his widow, one son, and one daughter, two brothers and three sisters.

Arthur Hilarion LeBlanc of Moncton, New Brunswick, aged 57, died August 19, after a lengthy illness.

Dr. LeBlanc although born in Nova Scotia moved to New Brunswick when he was very young. He attended Saint Joseph's University for several years and then went to Tufts Dental College in Boston where he was graduated in 1918. He joined the C.A.D.C. and upon discharge took up practice in Moncton. He was a past president of the Moncton Dental Society and the New Brunswick Dental Society. He was an active and very popular member of both. He was a member of the Roman Catholic Church

and was an active and highly esteemed member of the Benevolent and Protective Order of Elks Club in Moncton.

He is survived by his widow, his parents and one daughter. Also surviving are five brothers and five sisters.

William Clark Davey of Morrisburg, Ontario, died on August 26, at the age of 75.

He was graduated from the College of Dentistry, of the Royal College of Dental Surgeons of Ontario in 1904. He began his practice in Morrisburg. He served as a member of the Board of the Royal College of Dental Surgeons for 6 years and was president in 1915-17. He was president of the Ontario Dental Association in 1914.

Dr. Davey was a worthy citizen of Morrisburg, interested in his community and his profession and always willing to assist in promoting worthwhile projects.

He is survived by his widow and two daughters.

(See further tribute in Ontario news.)

Sylvester Herbert Zinn of Hanover, Ontario, aged 60, died July 26 after a long illness. He was graduated from the Faculty of Dentistry, Univ. of Toronto in 1913.

He served Hanover as a member of both the Public and High School Boards; as chairman and member of the Hanover Cemetery Board and the Library and Hospital Board. He was an official of Trinity United Church and an active member of the Hanover Masonic Lodge and Rotary Club.

Dr. Zinn is survived by his widow and one son, Dr. William J. Zinn of Hanover, also one sister.

DIRECTORY

Canadian Dental Association Headquarters—234 St. George Street, Toronto, Ontario.

Matters relating to the publication of manuscripts or news items for the English Section of the Journal should be addressed to the Editor-in-Chief, Dr. M. H. Garvin, 314 Somerset Building, Winnipeg, Manitoba.

Matters relating to the French Section of the Journal should be addressed to the French Editor, Dr. G. de Montigny, 400 est Blvd. St. Joseph, Montreal, P.Q.

Matters relating to the business of the Journal should be addressed to the Business Manager, Dr. Don W. Gullett, 234 St. George Street, Toronto, Ontario.

All changes of address should be sent to Dr. Gullett before the 20th of the month, to become effective the following month.

Matters relating to advertising should be addressed to the Advertising Representative, Mr. Carl J. Hinch, Consolidated Press, 73 Richmond Street W., Toronto, Ontario.

Le Journal

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Quelles dents devons-nous extraire ?

par M. CHARLES EVEN (Roubaix), D. D. S., Université de Pennsylvanie

Cette question maintes fois traitée le sera encore et évoluera, qu'on le veuille ou non, selon le progrès social, l'état de la science, les acquisitions techniques et les conditions économiques. Son intérêt semble, maintenant, avoir pris de l'importance.

Aussi, bien que cela paraîsse paradoxal, nous devons envisager de la Dentisterie ou de l'Art dentaire, ce qui, dans mon opinion, n'est pas la même chose; de la dentisterie sociale et de la dentisterie de sélection.

Nous devons avoir toujours comme but une bouche saine et fonctionnelle et, selon les différents aspects de la question, s'il s'agit d'hygiène, d'état général de santé dont les conséquences sont en relations directes avec des foyers d'infection; qu'il s'agisse de préparer une bouche en vue d'une prothèse; selon qu'on envisage la fonction d'abord, que l'on sacrifie un peu du fonctionnel à l'esthétique; également selon les possibilités du patient, son attitude mentale, la conception doit évidemment varier; aussi si nous avons le devoir de ne jamais prendre avantage de l'ignorance du patient, nous devons l'éclairer sur les avantages et inconvénients d'un traitement proposé prenant l'intérêt du patient avant toute considération.

Comme principes généraux, nous devons tenir compte de l'âge du patient, du sexe, de ses occupations professionnelles, de ses antécédents pathologiques généraux

aussi bien que de son passé bucco-dentaire. Si nous nous trouvons en présence d'un sujet de 35 ans ou de 80, le problème est évidemment différent. On trouve maintenant des spécialistes en orthodontie, en soins d'enfant; l'avenir va sans doute nous donner des gérodon-tistes qui s'occuperont des plus de soixante ans. Pourquoi pas? Il existe en médecine des gériatres.

Comme considérations particulières, nous avons à tenir compte de la susceptibilité à la carie, de l'occlusion, des tissus paradentaires, de la valeur de l'ensemble de la bouche du patient ainsi que de son hygiène, les dents après examen sur toutes les faces après ablation du tartre et des calculs sériques, l'état des papilles interdentaires, la sensibilité des dents, la résorption du procès alvéolaire, la mobilité ou non des dents, l'hypertrophie ou l'atrophie des muqueuses, l'abrasion ou l'érosion des dents, la perfection ou la défectuosité des soins et obturations, couronnes antérieures ou restaurations défectueuses demandant à être reprises, des points de contact parfaits ou non, la profondeur des cryptulies, la migration des dents, les anomalies de forme ou de position, les dents dépulpées ou non, état de la pulpe et complications bucco-dentaires. Dans certains cas, la radiographie est nécessaire pour permettre un meilleur traitement, si la prothèse qui suivra est envisagée avec bridge, prothèse partielle ou complète, l'éclectisme est différent à

cause des facilités ou non de modifier la prothèse.

Pour les cas importants, l'empreinte d'études est indispensable et la radiographie un complément à conseiller.

Prévention

Dents de sagesse sans antagonisme, prémolaires ou dents ectopiques ou hétérotopiques, paradentose avancée, racines avec lésions périapériennes, ou inutilisable pour bridge, dents de sagesse difficiles à maintenir dans des conditions hygiéniques. On sait que l'hygiène est la partie de la médecine la plus importante et la plus méconnue. Nous ne devons pas faire fi des enseignements et des principes de cette science.

Pédodontie

Soins d'enfant.—Nous avons le devoir de conserver autant que possible les dents de lait; un grand effort est nécessaire dans ce sens. Des progrès indiscutables existent qui sont à l'honneur des praticiens qui se dépensent comme le Docteur Soleil. Notre rôle étant de préparer une bouche pour l'avenir, les dents temporaires qui peuvent être soignées (2^{me} degré, 3^{me} degré, 4^{me} degré sans complication pouvant être prolongées pour une période suffisante) doivent être maintenues en bouche; par contre, les dents infectées, les racines, les dents presque découronnées où une obturation ne tiendrait pas demandent à être supprimées.

Dans notre appréciation, nous avons à tenir compte de l'âge de l'enfant, sa croissance générale, les dimensions de ses dents par rapport à ses maxillaires; l'éruption avancée ou retardée, les rapports d'occlusion, les différences du côté gauche et du côté droit de façon à provoquer une harmonie dans le développement; en principe être très conservateur. Dans certains cas, au contraire, des dents en retard, et entravant l'évolution des dents permanentes demandent à être extraites.

Orthodontie

Impécuniosité, difficultés de voir un praticien, selon que celui-ci est spécialiste ou praticien général, dans certains cas d'exception, on rend service à son patient

en enlevant une ou deux dents, même si les dents de six ans sont fortement cariées et que les germes de dents de sagesse existent, l'extraction des quatre dents de six ans peut être indiquée.

Prothèse

Dans le domaine de la prothèse, on arrive pratiquement avec le bridge à rétablir à 100% la fonction masticatoire; avec la prothèse mobile, on arrive à 75% fonctionnel et 100% esthétique. Aussi il est peu compréhensible qu'on s'acharne à des traitements aléatoires de dents mobiles, purulentes, maintenues avec des attelles métalliques alors qu'au point de vue de la santé de l'individu on rendrait un meilleur service à son patient par l'extraction et la prothèse. Si dans la paradentose avec une résorption d'un 1/3 du procès alvéolaire, on obtient d'excellents résultats, avec une lyse des 2/3 du procès alvéolaire une conservation de dents très intéressante, quand le procès alvéolaire est résorbé des deux tiers dans la grosse majorité des cas, l'extraction et la prothèse sont indiquées.

Si les dents pour des raisons diverses ont fait de la migration dans un ou plusieurs sens, sont fortement inclinées et ont perdu leur occlusion, en dentisterie de sélection on doit rechercher à corriger ces états anormaux. En dentisterie sociale, si une prothèse est envisagée, une base sera plus confortable pour le patient, plus hygiénique si on pratique, l'avulsion, car pour placer votre appareil vous devez dégager vos collets; une fois en place vous aurez un vide qui sera tout disposé à maintenir une petite réserve qu'il est préférable d'éviter. Vous avez aussi à tenir compte dans quelles conditions votre prothèse sera biologique et, si une entrave au fonctionnement doit exister, vous devez avoir une ligne de conduite en conséquence.

La dentisterie opératoire

Les limites de la dentisterie opératoire sont en fonction de l'entraînement, de l'habileté, de la sagacité du praticien et aussi des possibilités du patient; en principe toute dent pouvant être ramenée saine et restaurée correctement doit être

conservée; par contre, les dents à racines séparées, perforées, à lésions périapexiennes et qui dans de nombreux cas, entre des mains expertes peuvent être amenées à rendre un service appréciable, d'une façon générale, doivent être extraites.

Les lésions périapexiennes, les conséquences au point de vue santé générale ont fait couler des flots d'encre, Benjamin Russ, dans son livre sur la pratique de la Médecine, publié en 1818, signalait plusieurs cas de rhumatismes et d'autres états pathologiques, soulagés par l'extraction des dents; les cas de complications secondaires signalés: sinusite, conjonctivite, névrite, otite, lymphangite, gastrite, ulcère de l'estomac, septicémie, anémie, endocardite, névralgie faciale, arthrite, nous font un devoir de prendre en considération la répercussion que ces dents infectées peuvent avoir sur l'organisme.

Un nombre d'observateurs méticuleux arrivent à la conclusion que les infections chroniques du système dentaire comptent pour un important facteur dans la considération des foyers d'infection comme une cause de certains état pathologiques. Les relations possibles entre l'infection dentaire véhiculée par la circulation et déterminant des accidents à distance nous obligent à faire appel à notre réflexion pour la discrimination de certaines extractions.

Les observations du Docteur Gibier Rambaud, de l'Institut Pasteur de Paris, ancien Directeur de l'Institut Pasteur de New-York, sont édifiantes dans ce domaine. Gibier Rambaud, après avoir observé sur lui-même les conséquences de l'infection dentaire, en arrive, je crois, à la conclusion que toute dent dévitalisée devrait subir un contrôle radiographique. Certains auteurs estiment que ce contrôle

devrait être renouvelé à différentes périodes car, comme Gibier Rambaud a observé, sans contestation possible, des désordres montrant des cas de démence précoces sont dues à des foyers dentaires d'infection.

Nous devons tenir compte de notre responsabilité dans ce domaine et, dans le doute, il est souvent préférable d'extraire; où la résistance du patient diminuant, la virulence de l'infection conduit à une lésion pathologique à distance, et évidemment, l'extraction s'impose.

En fait, avec nos moyens actuels, nous pouvons désinfecter pratiquement n'importe quelle dent. L'ionophorèse dans ce domaine a réalisé un progrès important, mais stériliser un organe, le maintenir stérilisé sont deux choses différentes. Que la racine ait été stérilisée, que les racines ne sont pas correctement obturées; qui peut affirmer, dans tous les cas d'obturer parfaitement une racine, vous avez une dent dans laquelle les racines ont été stériles mais par suite de la non-obturation des canaux principaux ou aberrants vous risquez de perdre votre stérilisation.

Dans la paradentose qui débute toujours à la ligne gingivale de la dent, vous pouvez avec un instrument très fin explorer la profondeur de la cryptulie. L'examen digital vous fixe dans une certaine mesure sur la valeur des tissus.

L'âge du patient, l'histoire de la perte de ses dents, la nature des irritations locales, son état général en fait de paradentose sont également à prendre en considération car, si vous ne réduisez pas les cryptulies, vous avez toujours une infection ou une réinfection des tissus pour lesquelles soit par traitement ou par chirurgie vous devez rétablir un organe sain.

Quelle ligne de conduite devons-nous avoir concernant les dents incluses?

Dans la dernière édition de "Review of Dentistry", par Trapozanno, la réponse de Cameron, professeur de Chirurgie bucco-dentaire, Temple University, Chef du Service de Chirurgie bucco-dentaire de l'Hôpital de Pennsylvanie est celle-ci: dans

la majorité des dents incluses, qui éventuellement peuvent donner des difficultés, il faut extraire. Pour ma part, j'ajouterais que quand un patient est fatigué, en état de moindre résistance, il est à la merci d'un de ses accidents, il

court le risque d'opération en pleine inflammation avec les conséquences qui auraient pu être évitées.

Dans *Review of Dentistry*, par Ginn, dernière édition, concernant les dents incluses, sous la plume de M. Carthy de l'Ecole Dentaire de Baltimore, on lit qu'une troisième molaire incluse peut par une pression sur la couronne de la dent de 12 ans, déterminer une carie. Au point de contact, elle peut par pression provoquer une résorption de la racine de la seconde molaire.

Des cas de pulpites se produisent et les cas de névralgies ne sont pas rares.

La névralgie peut être due par la pression des racines de la dent incluse sur le nerf dentaire inférieur et ses branches; l'irritation d'une dent incluse peut donner une altération du tissu osseux, elle peut agir comme un foyer d'infection; elle est souvent la cause de diagnostic imprécis, car du côté des amygdales ou des oreilles, avec les nerfs de cette région, il est difficile, sinon impossible, de déterminer la part exacte des incidences de la dent incluse.

Vous avez des cas d'accidents de dents incluses qui provoquent de telles douleurs au point d'altérer la mentalité du patient sans préjudice de leur influence sur son système nerveux.

Les erreurs de diagnostic au point de vue amygdalites et otites sont également fréquentes.

Les troisièmes molaires incluses peuvent donner des périoronites, des périécementites quand ce ne sont pas des complications plus graves, ostéophlegmons, adéno phlegmons, dont malheureusement les conséquences sont quelquefois fatales; des abcès amygdaliens ou pharyngiens peuvent se produire dans la région de la troisième molaire.

Les dents de sagesse incluses peuvent produire des malpositions ou réduire sensiblement les résultats acquis d'un traitement orthopédique; ces dents peuvent également agir comme foyer d'infection et déterminer des accidents à distance; des tumeurs peuvent être considérées comme ayant comme point de départ une dent incluse. A ce sujet, dans mes ob-

servations personnelles, je relève le cas suivant:

M. X..... âge environ 20 ans en 1941: extraction de g 8 incluse, Mars 1943: état inflammatoire de la région g 6, 7, 8 avec trismus et légère adénopathie; disparition au bout d'une semaine environ. Juin; même état inflammatoire qu'en mars; traitement des racines de la première molaire inférieure gauche pensant que l'état inflammatoire était la conséquence d'une mortification pulpaire. 9 novembre 1943: traitement chirurgical, il est sorti de la tumeur un liquide ayant une analogie avec celui contenu dans les kystes.

J'ai pratiqué l'examen anatomo-pathologique:

La pièce ayant été incluse dans la paraffine, puis coupée, fixée et colorée, l'examen microscopique des préparations a montré une image caractéristique d'un épithélioma baso-cellulaire au début, de malignité très restreinte et ne présentant que très peu de tendance à la récurrence.

Dans ma vie professionnelle, les dents de sagesse inférieures sont celles qui m'ont donné le plus de déboires, le plus d'ennuis.

Jadis, j'étais conservateur ou au moins j'étais comme les Anglais: "Wait and See"; maintenant, devant les aléas que j'ai eu avec la conservation, je n'hésite plus, j'opte pour l'extraction dans la plupart des cas.

Certes nombre de praticiens trouvent que ces avulsions sont des interventions importantes; c'est exact; elles réclament un appareil de radiographie, une instrumentation, une assistance et une certaine organisation, que l'on trouve dans tous les centres importants.

Winter a écrit un livre qui ne compte pas moins de 783 pages sur les seules troisièmes molaires incluses; c'est vous signaler la complexité du sujet mais personne n'est omniscient. Quand on pense qu'un praticien est susceptible de faire l'intervention pour laquelle vous n'êtes pas assez outillé, ce n'est pas une marque de faiblesse mais d'intérêt du malade, de le diriger vers un spécialiste.

Personnellement, j'envoie à des méde-

cins les cas relevant de la pathologie générale pour lesquels je ne m'estime pas suffisamment qualifié pour prescrire un traitement.

Si on doit connaître des indications de

l'avulsion, il faut aussi se souvenir qu'on doit utiliser pour conserver le système dentaire toutes les ressources de notre art pour le bien de nos patients et notre propre satisfaction professionnelle.

ARGUMENTATION

Dr Soleil Jean. — Constatons d'abord que notre Président a choisi un excellent sujet qui reste toujours d'actualité. Pour certaines dents, l'indication d'avulsion totale est formelle et indiscutable, mais nous rencontrons de nombreux cas où l'hésitation est permise. Bien plus, les opinions sont différentes et la décision est trop fréquemment dictée par les tendances de l'opérateur, pour ne pas dire les intérêts. Nous estimons que, dans les cas douteux, notre devoir est d'éclairer le client sur les avantages et les inconvénients de la décision, puis de lui laisser prendre la décision définitive en connaissance de cause. De cette façon, aucun reproche ne peut nous être adressé par la suite.

D'une façon générale, il faut être très conservateur et s'opposer aux extractions multiples, inutiles ou prématurées. Certains ont admis que quelques dents présentes d'un seul côté, ou 3 dents au maxillaire supérieur sont toujours à supprimer; or des prothèses correctes peuvent se réaliser dans ces cas, et 2 canines permettent de conserver le modelé proéminent du maxillaire supérieur.

Pour le maxillaire inférieur, il faut être très conservateur, surtout chez les sujets n'ayant jamais porté de prothèse, ou à crête résorbée dans la région molaire. Plus que de l'âge chronologique, il faut tenir compte de l'état général du sujet, très variable à ancienneté égale. La position de la dent dans les 3 sens, son utilité et son avenir sont des facteurs importants.

Dans la polyalvéolyse, n'oublions pas que la disparition des dents supprime l'extériorisation des accidents locaux mais n'entraîne pas la guérison. La maladie suit son évolution et, comme René Vincent l'a montré, la résorption osseuse se continue chez l'édenté. Even a cependant raison de conseiller la suppression des dents ingurissables, qui sont nuisibles pour la guérison. Il semble que l'extraction devienne

indiquée lorsque la lésion osseuse atteint ou dépasse l'apex. Sauf de très rares exceptions, toute dent présentant une lésion péri-apicale chronique non guérissable est à enlever. Le critère le plus sûr est donné par l'absence de signes cliniques, et de signes radiographiques. Cette règle est particulièrement importante chez les cardiaques.

Les dents incluses sont à éliminer en cas de complications, autrement l'intervention n'est pas indispensable. Mais il faut penser que certaines migraines chroniques disparaissent après les avulsions de dents incluses.

En ce que concerne les dents de sagesse, leur disparition facilite les traitements d'orthopédie dento-faciale, et évite les récides, lorsque l'équilibre dentaire n'est pas parfaitement obtenu.

Les 3^e molaires inutiles ou provoquant des accidents chroniques doivent disparaître, l'intervention ayant lieu en période favorable. Aucune règle ne peut être absolue, car, par suite de la perte de la dent de 6 ans, et surtout des deux dernières molaires, la dent de sagesse peut permettre ultérieurement la réalisation de prothèses fixes.

Enfin, il faut toujours tenir compte de la mentalité du client et ne pas s'engager dans des soins longs et compliqués, si le sujet n'y attache aucune importance. Toutes les dépenses, et les ennuis lui sembleront superflus. Nous trouvons dans tous les milieux des gens compréhensifs.

Nous félicitons notre ami Even de nous avoir représenté les différents aspects d'un problème que nous devons résoudre quotidiennement.

*La Revue Stomato-odontologique
du Nord de la France
2^e Trimestre 1951*

Nouvelles de l'Association

Du nouveau au sujet de l'assurance-santé

La nouvelle suivante a été publiée le 21 août dernier:

Ottawa étudiera la question d'Assurance-Santé à la session de 1952

Ottawa, le 20 août 1951.— Peu importe ses décisions à partir de maintenant jusqu'aux élections générales prochaines,

le gouvernement St-Laurent n'a pas l'intention de reléguer au second plan la question de la sécurité sociale.

La session spéciale d'octobre, nonobstant les autres lois importantes qui y seront adoptées, sera surtout consacrée aux pensions de vieillesse. Pendant qu'on met la dernière main à cette législation, on est à organiser la constitution d'un co-

mité spécial pour la session de 1952 pour étudier le problème d'Assurance-Santé.

Ce comité fera probablement son travail de la même façon que celui des pensions de vieillesse, en 1950, en étudiant les organisations mises sur pied dans ce sens dans d'autres pays et en proposant, à la fin, une série de recommandations. Cependant, ces décisions ne seront pas prises à la hâte. Les pensions de vieillesse avaient surtout un aspect pécuniaire et la grosse question à débattre était le montant équitable à payer et la façon de prélever des impôts susceptibles de couvrir ces frais additionnels.

L'Assurance-Santé soulève un problème beaucoup plus compliqué pour l'élaboration des services. Les soins médicaux à eux seuls, exigeront des discussions avec la profession médicale et la mise sur pieds d'un système qui saura satisfaire aux exigences légitimes des praticiens. On doit aussi établir des modalités dans le programme, qui marcheront de pair avec les déclarations faites par le gouvernement en 1945.

Depuis 1948, les provinces et les municipalités, avec l'aide fédérale, ont augmenté leurs disponibilités d'hospitalisation de 25,000 lits: néanmoins, il manque encore 15,000 lits, en se basant sur les estimés de 1948.

En plus—et surtout—il reste à réaliser les ententes avec les provinces, ce qui suppose une tâche beaucoup plus considérable que le fût l'accord au sujet des pensions de vieillesse, qui sont payées par le gouvernement fédéral. Le programme de santé sera sous la responsabilité presque entière des provinces. Le gouvernement fédéral ne fera en somme qu'augmenter son aide financière aux provinces. On a l'impression que cette aide pécuniaire fédérale viendra spontanément, sans que les provinces aient à contribuer quoi que ce soit.

Les provinces, au début, devaient contribuer aux pensions de vieillesse, mais leur contribution, avec le temps, devient de plus en plus minime; à la fin, cette contribution ne pourra pas être distinguée des autres sources d'impôts qui deviennent de plus en plus lourds,

Mise sur pied d'une clinique dentaire en Mémorial

La clinique dentaire du Memorial Hospital du comté de Shelburne, en Nouvelle-Ecosse, a été organisée grâce à un legs généreux de feu le docteur et de Madame Gordon R. MacKay. Le docteur MacKay était natif du comté de Shelburne et avait passé la plus grande partie de sa vie à pratiquer à Boston, Mass. A sa mort il a légué sa succession à sa veuve en formulant le désir qu'elle fonda un hôpital dans le comté de Shelburne. Madame MacKay, de son vivant, réalisa ce vœu de son mari en fondant l'hôpital Roseway; à sa mort, elle laissa le capital et le solde de la succession du Dr MacKay, en plus de ses biens personnels, pour la mise sur pied d'une clinique dentaire pour les enfants de Shelburne.

Cette clinique dentaire est destinée à prodiguer aux enfants (qui, à date ne reçoivent pas de traitements dentaires suivis) tous les traitements dentaires possibles. Il ne sera pas facile, avec les fonds disponibles, de donner des soins équivalents à ceux reçus chez un praticien ordinaire. Il faut comprendre que cette clinique ne doit pas déranger quoi que ce soit aux conditions existantes.

Il sera impossible de donner des soins à tous les enfants de Shelburne, d'âge scolaire; par conséquent, les exécuteurs testamentaires de cette clinique ont adopté le plan suivant:

- 1) La première année, en commençant en septembre 1951, la clinique sera ouverte durant à peu près 200 heures (lundi et vendredi) de 9 a.m. à midi.
- 2) Les groupes suivants, par âges, recevront des traitements:

- 1) La première année, en commençant en septembre 1951, la clinique sera ouverte durant à peu près 200 heures (lundi et vendredi) de 9 a.m. à midi.
- 2) Les groupes suivants, par âges, recevront des traitements:

1 ^{ère} année de fonctionnement	Pré-scolaires (qui ont cinq ans et plus) Préparatoire 1 ^{ère} année 2 ^{ème} année
2 ^{ème} année de fonctionnement	Pré-scolaires (qui ont cinq ans et plus) Préparatoire 1 ^{ère} année 2 ^{ème} année Plus ceux qui sont maintenant en 3 ^e année et qui ont été traités à la clinique l'année précédente.

3^{ème} année
de fonctionnement

Pré-scolaires (qui ont cinq ans et plus)
Préparatoire
1^{ère} année
2^{ème} année
Plus ceux qui sont maintenant en 3^{ème} et 4^{ème} année, qui ont été traités à la clinique les deux années précédentes.

Cette augmentation progressive du rendement de la clinique continuera jusqu'à ce que le maximum soit atteint. Les enfants reçus pour la première fois auront naturellement besoin de plus de travail que ceux qui ont déjà été vus.

- 3) Chaque centre fera ses propres arrangements pour le transport des enfants à la clinique, aller et retour. Une personne adulte devrait être en charge du groupe et être responsable de la discipline des enfants. Cette clinique sera installée dans l'ancienne résidence du docteur MacKay, dans la ville de Shelburne. On ne prévoit pas de complications dans l'organisation des rendez-vous des enfants dans la ville de Shelburne. Les enfants des autres régions du comté seront surtout traités durant les mois de septembre, octobre, novembre, avril, mai et juin. Ceux des écoles de Shelburne et ceux des écoles plus éloignées, mais qui sont desservies par les autobus de Shelburne, seront vus durant décembre, janvier, février et mars.

La politique de la clinique est de rendre le plus de services possible. Pour faciliter la tâche des directeurs, tous les centres du comté sont invités à désigner un membre pour un comité dentaire.

A notre connaissance, cette clinique dentaire est la première à être établie au Canada grâce à un legs privé.

Projet d'assistantes dentaires, en Angleterre

Le Ministère de la Santé anglais vient d'annoncer que le Parlement sera appelé à voter une loi autorisant les assistantes dentaires à extraire et à obturer les dents temporaires. Ce projet ressemblera de près à celui qui fonctionne en Nouvelle-Zélande et que ces assistantes recevront un cours de deux ans, après quoi elles deviendront des employées salariées

du gouvernement. Cette décision du gouvernement n'est pas étrangère au rapport de la Commission du Gouvernement Britannique, qui a été déléguée récemment en Nouvelle-Zélande pour en étudier le fonctionnement. Le Ministère de la Santé prétend que cette loi est proposée parce que la majorité des dentistes scolaires ont démissionné pour devenir éligibles pour les honoraires plus élevés payés par le gouvernement pour traiter des adultes.

La mise en force de la Loi du Service de Santé Nationale en Grande-Bretagne, qui prévoyait des traitements dentaires en masse pour les personnes de tous âges, a fatalement produit des négligences déplorables chez les enfants, qui en avaient le plus besoin. Pour obvier à cette situation, on se propose de confier les traitements dentaires, qui ont la plus grande répercussion dans l'avenir de la santé dentaire de la nation, à des personnes, qui auront reçu une formation inadéquate.

La Fédération Dentaire Internationale recommande la fluoruration de l'eau par le monde

A la trente-neuvième réunion annuelle de la Fédération Dentaire Internationale tenue à Bruxelles du 9 au 17 juin, on a recommandé l'adoption de mesures préventives telle que la fluoruration des eaux des aqueducs.

La résolution à ce sujet se lit comme suit:

Il est résolu par la F.D.I. que tous ceux qui sont responsables de la santé dentaire et de la santé en général attachent toute l'importance nécessaire à la propagande et l'utilisation des fluorures pour le contrôle de la carie dentaire, et de plus;

Il est résolu que la F.D.I. fasse pression auprès des gouvernants des pays afin d'attirer leur attention sur la prévention de la carie dentaire par des programmes effectifs d'hygiène buccale plutôt que par des traitements sans fin pour les personnes handicapées par la négligence et la maladie.

Vingt pays étaient représentés à la réunion de Bruxelles.

La dentisterie sous le régime d'Etat, en Angleterre

(Cette lettre apparaissait à la page 229, livraison du 28 mai 1949 du British Medical Journal.)

"Cher Monsieur,

Mon dentiste s'est inscrit récemment dans le Service de Santé, après avoir pris soin de mes dents pendant plusieurs années. Par toutes sortes de traitements, il a conservé mes dents et mes gencives en bon état. Il a appris que les règlements du Service exigeaient qu'il demande une permission spéciale pour ce genre de traitement. En réponse, on fixa un examen fait par un membre du Comité des Estimés Dentaires; cette formalité fut remplie.

J'ai soixante-huit ans et il me reste encore vingt-trois dents, qui, il va sans dire, ont plusieurs obturations. Dans son rapport, l'examineur recommanda l'extraction de dix-huit dents. Ces extractions comprenaient mes neuf dernières molaires, qui me rendaient bien service et dont mon dentiste avait préservé l'intégrité durant plusieurs années. La réaction spontanée de mon dentiste fut de refuser catégoriquement ces suggestions, en se basant sur le danger que ces extractions représenteraient pour ma santé et sur le manque pitoyable de jugement diagnostique de cet examinateur. J'étais bien de son avis et signifiai à l'examineur mon refus pour un tel traitement. Je suis en excellente santé et il n'y a aucune raison pour justifier ces extractions. Il y a un certain degré de résorption alvéolaire autour de ces dents, il faut l'admettre, mais les gencives sont en bon état et ces dents représentent un atout considérable pour une bonne mastication.

Il n'y en avait qu'une en train d'être traitée—qui manifestait des signes pathologiques et une autre, qui était cariée.

Mon dentiste était d'avis que l'extraction de ces dents serait un handicap pour ma santé et je connais personnellement des amis, qui ont souffert d'ennuis graves à la suite d'extractions massives.

Il me paraît insensé que les employés d'un Ministère dictent la ligne de conduite à suivre aux dentistes, quand il s'agit de traitements. Si cette Loi en-

traîne des abus de ce genre, cette Loi est certainement mauvaise."

Londres W.I.

N. S. Finzi.

Le Dr K. M. Johnson nommé représentant

Le Dr K. M. Johnson, de Winnipeg, a été nommé représentant du Manitoba au Bureau des Gouverneurs de l'A.D.C. Le docteur Johnson est un diplômé de Toronto (1913). Il a occupé différents postes officiels dans plusieurs organisations dentaires: présidence de la Western Canada Dental Society et de la Winnipeg Dental Society. Il a été nommé membre de l'exécutif du Collège des chirurgiens - dentistes du Manitoba, en 1948 et en a été le président en 1950. Il apportera au sein du Bureau des Gouverneurs de l'A.D.C. une expérience précieuse basée sur sa participation à des activités officielles dentaires. Il succède au Dr H. J. Merkeley, ancien président de l'A.D.C. comme délégué de cette province.

Premier cours pour des hygiénistes dentaires au Canada.

La Faculté dentaire de l'Université de Toronto annonce l'ouverture d'un cours d'hygiène dentaire pour les jeunes filles en septembre. Le cours est proposé aux jeunes filles qui ont au moins 17 ans ou qui les auront avant le 1er juin 1952. La durée du cours est de deux ans et donne droit à un diplôme. On n'acceptera pas plus de dix étudiantes et les frais de scolarité sont de \$250. Les exigences académiques sont un diplôme d'une école secondaire d'Ontario avec preuve de succès dans quatre matières libres et le diplôme classe XIII d'Ontario ou des diplômes équivalents sur neuf examens de matières au programme régulier.

Urgence de la défense civile.

Plusieurs assemblées des représentants de la santé nationale ont eu lieu à Ottawa, ces derniers mois, au sujet de cette question. Ces réunions se sont surtout occupées des préliminaires de l'organisation de la défense civile. On a pris soin de ne rien divulguer jusqu'à ce que les décisions prises se soient avérées justifiées. Des membres de toutes les professions,

qui s'occupent de la santé des populations, seront invités à collaborer à des tâches bien précises. On espère que des renseignements plus complets seront disponibles dans un avenir rapproché. On a déjà remis aux membres de cet organisme des tirés-à-part qui traitent d'éducation dans ce domaine. Ces imprimés devraient être conservés pour usage futur.

Le Directeur du Corps Dentaire Royal Canadien nommé brigadier

Le 23 août, il fut annoncé que le directeur général des Services Dentaires du Ministère de la Défense Nationale avait été promu au grade de brigadier. La promotion du brigadier E. M. Wansbrough était attendue depuis longtemps.

Le Comité des Services Dentaires de l'Association Dentaire Canadienne avait entrepris l'étude du système des promotions du Corps Dentaire en le comparant avec celui des autres corps. Pour conclure, le mémoire suivant a été soumis au Ministère de la Défense Nationale, le 30 mai dernier:

"A la première réunion de l'Association Dentaire Canadienne, tenue à Montréal, en 1902, une des principales questions à l'étude était l'organisation d'un Corps Dentaire. A toutes les autres réunions de cette Association tenues par la suite, celle-ci a toujours favorisé l'organisation d'un Corps le plus parfait possible.

Au début de la première Grande Guerre, l'Association fit en son pouvoir pour faciliter l'organisation d'un Corps le plus parfait possible dans les circonstances. Entre les deux guerres, un Comité fut constitué pour étudier sans relâche l'organisation d'un meilleur service, en cas de guerre. Comme résultat, l'Association, en 1939, avait en disponibilité un projet qui, il nous plaît de le dire, fut approuvé et adopté par les autorités de ce temps. Nous relatons ces faits pour montrer l'estime et la satisfaction que nous éprouvons pour le Corps Dentaire Royal Canadien, tel que constitué aujourd'hui. Il nous semble que vous êtes au courant des commentaires élogieux qu'on a fait du Corps durant la dernière guerre.

Nous tenons au maintien de la situation actuelle. A notre avis, l'utilité du

Corps a été amplement démontrée; si les soldats doivent être en forme, il faut que les services dentaires soient facilement à leur portée. A plusieurs reprises, il a été prouvé que plus que toutes les autres, les affections dentaires sont responsables de repos forcés. Par conséquent, un Corps Dentaire bien organisé veut dire une épargne précieuse de forces humaines, tellement indispensables en temps de guerre.

Au début de la dernière guerre, une des recommandations touchait à la constitution d'un service unique destiné aux trois armes. D'après nous, le service seul comptait et il importait peu que le patient soit de l'armée, de l'aviation ou de la marine. Nous pensons la même chose aujourd'hui et nous croyons que le Corps ainsi constitué a donné satisfaction. Cependant, cette fusion des services a produit des inconvénients dans l'établissement des grades au sein du Corps dentaire.

Illustrons notre pensée par un exemple:

- 1) Si nous regardons les Services Médicaux, nous constatons que toutes leurs subdivisions (marine, armée, aviation) ont des grades plus élevés que ceux qu'on trouve au sein du Corps Royal Dentaire Canadien. Il y a là des lacunes inexplicables.
- 2) Aux Etats-Unis, nous savons que le Corps Dentaire possède deux majors-généraux et deux brigadiers-généraux pour l'armée, trois amiraux pour la marine et un major-général pour l'aviation.
- 3) En Angleterre, le Corps Dentaire de l'Armée a un major-général, douze colonels et trente-cinq lieutenants-colonels.

On nous a répété, avec raison, nous osons l'espérer, que le Corps canadien était le meilleur du genre, qui ait pris part à la dernière guerre. Ces appréciations sont parvenues à l'Association de sources étrangères à notre pays. Des renseignements nous parviennent maintenant, qui nous montrent que ces mêmes sources trouvent étrange l'organisation du Corps en ce qui a trait aux promotions.

Il faut savoir que depuis 1946 (année de sa réorganisation) le Corps a doublé son personnel. Les meilleurs éléments de notre profession devraient se diriger vers le Corps Dentaire et, pour cette raison, il faut y créer des chances de carrière intéressante. C'est pourquoi, pour maintenir le degré de rendement atteint par le Corps Dentaire et pour soutenir l'intérêt qu'on y porte, l'Association Dentaire Canadienne, représentant 99% des dentistes du Canada, recommande qu'on élève le niveau des grades des officiers supérieurs pour qu'il se compare avec celui des Services Médicaux des forces armées du Canada, du Corps Dentaire des forces anglaises et des Etats-Unis.

Service de Bibliothèque

La classification des volumes de la bibliothèque est terminée. Bientôt les

membres auront à leur disposition un catalogue. Entretemps, on peut emprunter des volumes, en en faisant la demande. La bibliothèque possède à peu près tous les volumes traitant de dentisterie et sujets connexes. La plupart de ces volumes ne datent pas plus de dix ans. On peut se procurer ces volumes en en mentionnant le titre exact ou le sujet. On peut les emprunter pour quinze jours. Si au bout des quinze jours, on désire les garder pour plus longtemps, on pourra prolonger d'une semaine, en en faisant la demande, à condition qu'il n'y ait pas eu de réquisition pour ce volume. Toute demande s'adresse au:

Bibliothécaire,
Association Dentaire Canadienne,
234 St-Georges,
Toronto.

Université de Montréal

Faculté de Chirurgie Dentaire—Cours Gradués et Postsecondaires—1950-1951

Endroits	Chirurgie	Dia- gnostic	Endo- dontie	Ortho.	Pédo.	Pério.	Pro- these
Québec.....	17	14	—	5	—	—	1
Ontario.....	3	—	—	6	—	—	1
Manitoba.....	1	—	—	—	—	—	—
Alberta.....	1	—	—	—	—	—	—
Colombie britannique.....	1	—	—	—	—	—	—
Nouveau-Brunswick.....	—	—	—	1	—	—	—
Nouvelle-Ecosse.....	—	—	—	—	—	—	1
Etats-Unis.....	1	—	—	31	—	—	—
Palestine.....	—	—	—	1	—	—	—
	24	14	—	44	—	—	3

Quatre-vingt-cinq (85) élèves ont suivi ces cours.

Cours Post-Scolaire en Radiologie, Anesthésie et Chirurgie Buccale à l'Université de Montréal, du 5 au 10 novembre 1951

Ce cours de cinq jours sera sous la direction personnelle des docteurs:

LeRoy M. Ennis, professeur de Radiologie à l'Université de Pennsylvania, auteur du manuel "Dental Roentgenology" et une des personnalités contemporaines du domaine radiologique dentaire.

Harry M. Seldin, auteur du volume "Practical Anesthesia for Dental and Oral Surgery," ancien chef de service de chirurgie buccale au New York University, un des cliniciens en demande pour des cours cliniques de ce genre.

Un programme détaillé sera expédié sur demande. Le nombre des inscriptions est limité à 20. Les frais d'inscription sont de \$75.00. Toute demande de renseignements doit être adressée au docteur Ernest Charron, doyen, Faculté de chirurgie dentaire, Université de Montréal, 2900 boul. Mont-Royal, Montréal 26.



Dr LeRoy M. Ennis



Dr Harry M. Seldin

Des "banques" pour la greffe dentaire

New-York, 19. (A.F.P.)—Après la banque des yeux et la banque du sang, une nouvelle banque médicale est en voie de création bien que sa réalisation paraisse encore assez lointaine.

Il s'agirait d'une banque dentaire où il serait possible d'obtenir des dents saines pour remplacer les dents défectueuses.

Après onze ans d'essais un premier succès dans cette voie de la greffe dentaire a été remporté sur des chats. Des dents prélevées sur un chat ont été transplantées chez un autre chat ou passées d'une mâchoire à l'autre.

En ce qui concerne les humains un problème difficile à résoudre se pose. Afin que l'opération réussisse il faudrait que la dent nouvelle soit extraite presque à sa formation c'est-à-dire prélevée dans la bouche d'un enfant.

Ces indications scientifiques ont été données hier par les services d'information de l'université Columbia, qui annonce la publication prochaine d'un rapport du Dr Harry Shapiro, professeur adjoint d'anatomie.

Photo du groupe d'orthodontistes inscrits au cours donné par le Dr Joseph E. Johnson, de Louisville, Kentucky, à la Faculté de chirurgie dentaire de l'Université de Montréal, en juillet 1951.



Assistaient aussi au cours, les docteurs Gerald P. Copeland, Willowdale, Ont., Robert M. Bailey, 3rd, Boston, Mass., David W. James, Ann Arbor, Mich., Albert Jarvis, Toronto, Ont., William J. Romano, Springfield, Mass., P. C. Hull, Jr., Charlotte, N.C., J. W. Colombo, Louisville, Kentucky, Louis J. Bonin, Lake Charles, Louisiana, Lyndon M. Virkler, Wellesley, Mass., C. W. Houghton, Bellows Falls, Vermont, M. A. Rice, Worcester, Mass., J. H. Roe, Iowa City, Iowa, K. V. Donaldson, Alexandria, Louisiana, A. G. Greenhouse, Syracuse, N.Y., I. L. Marcus, Philadelphia, Pa., W. J. Johnson, clinicien à l'U. de M., Suzanne Rothenberg, Boston, Mass., Joseph E. Johnson, Paul Geoffrion, chef de service, Clare K. Madden, Greenwich, Conn., John Dolce, New York, N.Y., Otto Bengle, clinicien, Howard Oliver, clinicien et Onil Hébert, professeur adjoint.

Manion, New Orleans, Louisiana, O. E. Wilson, Iowa City, Iowa, W. R. Casey, Pawtucket, R.I., Herbert Fuerst, Rocky Mount, N.C., W. I. Simmons, Shreveport, La., J. A. Katz, Beverly, N.J., William W. Fraser, Manchester, N.H., L. E. Riddolls, Toronto, Ont., M. A. Decoteau, Dutchess, N.Y., Herbert M. Riemenschneider, Berea, Ohio, J. B. Vesle, Jr., Pampa, Texas, R. Ogilvie, Fredericton, N.B., W. G. Foster, Hamilton, Ont., J. T. Crouch, Toronto, Ont., Gilbert D. Carney, Boston, Mass., Stephen Leco, Toronto, Ont., Guy Beauséjour, Montréal, Fernand Chabon, Auburn, Maine, Lewis C. Toomey, Jr., Baltimore, Maryland, John L. Savage, Cranston, R.I., Alfred Intrater, Tel-Aviv (Palestine), Israel, Jules Gray, LaRochelle, Biddleford, Maine, Duncas Kennedy, Montréal, Robert Wallack, Washington, D.C., Saul L. Fliegel, Potsdam, N.Y., John J. Brack, Montréal, Yves Dufresne, Trois-Rivières, Bernard Bélanger, Montréal, Louis Lépine, Montréal, Alfred L. Scherzer, Montréal.



(Photo from Canadian Government Travel Bureau)

Mount Rundle in Banff National Park, Alberta, Canada

SALUTATION TO THE DAWN

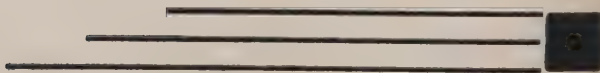
Look to this day
For it is life, the very breath of life.
In its brief course lie all the
Realities of one's existence:
 The Bliss of Growth
 The Glory of Action
 The Splendour of Beauty;

For yesterday is already a dream,
And tomorrow is only a vision.
 But today, well lived,
Makes every yesterday a dream of happiness,
And every tomorrow a vision of hope.
Look well, therefore, to this day.

*(Lines found in the desk of Dr. William Osler after his death.
Written by an Indian dramatist.)*



HAROLD M. CLINE, D.D.S., F.A.C.D.
Vancouver, British Columbia
President of the Canadian Dental Association



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Canadian Dental Association PRESIDENT'S ADDRESS*

by R. P. LOWERY, D.D.S., F.A.C.D., Toronto, Ontario

ACCORDING to the by-laws of the Canadian Dental Association the President must address the Association at its Annual Meeting. In fulfilling that obligation, I hope I may leave with you a few significant thoughts.

Dentists, in the main, are imbued with a sense of the high importance of their profession in the national life. In the main, too, they are convinced that this high importance can best be made evident by a minimum of controls upon the individual and upon the organization. They do not take kindly to the intrusion of the totalitarian concept into the profession of dentistry. They believe that the wise exercise of freedom of choice can still best serve the individual, the whole profession, and the community at large.

On the other hand, however, we must admit that within the ranks of our Canadian organization there are some disturbing factors. There are those, not many I grant, who are seemingly enamoured with the idea of state control. They may be fatalists who have come to think that this is the ordained order of things for the future and that it is futile to resist or attempt constructive direction to the movement. They may be those who very simply lack initiative and progressiveness: They are satisfied to be "pushed around." Then there is also within our ranks that minority group, found

everywhere, individualists, selfish at heart, who are unwilling to give of their time, their money, or their services to the good of the profession at large.

Now, what should be the high guiding principles of our Association? I suggest to you three in which I believe. Firstly, Dentistry is essentially a health profession. We are dentists primarily to safeguard the health of a people. Secondly, this organization must base its true strength upon the ideal of Service and Sacrifice. Within our ranks, unheralded and unsung, is a goodly company of dentists who give of their time and talents simply in order to be of service. The members of the twenty-six committees whose reports we have just heard and considered will illustrate in part my point. There is, too, that goodly company of able teachers in our faculties of dentistry who at no little financial sacrifice to themselves, best serve their profession in either full or part time capacity. Likewise, too, there is that far more numerous company of dentists, who, though not privileged to give leadership either in their local or national organizations, actively support through their encouragement, those who are privileged and honoured to give that leadership. Within our organization, also, are those keen minds who through the medium of

*Presented at the Annual Convention of the Canadian Dental Association, in Ottawa, September, 24, 1951.

disinterested research are contributing abundantly to the profession at large. There are those with editorial and administrative abilities. They are ever our challenge and encouragement. They hold us in their debt. Among our undergraduates as well, we must not be unmindful of those who are willing to go the extra mile. In this connection I should mention those who entered the War Memorial Scholarship Contest and especially those two distinguished first and second prize winners: Dr. M. A. Kamiensky of the University of Toronto and Dr. V. P. Gilbert of McGill University. Thirdly, and perhaps most important, the dentist must cherish and keep inviolate the ideal of the good citizen. True he must be well skilled in his work; he must be jealously safeguard the landmarks of professional ethics; he must be beyond and above political, racial, or religious discrimination.

There are no doubt some thoughts and actions, expressed during a year's activity which have a somewhat disturbing and unsettling effect on our real concept of the worthiness of our efforts as a health organization. Let us remember that through it all there runs the golden thread of sincerity which if held to and followed will lead to our ultimate goal. And in the long run, society will judge the individual dentist according to the degree in which he fears God, honours the King, cherishes his human freedom and uses it wisely in sacrificial service.

In conclusion, ladies and gentlemen, let me thank you warmly and sincerely, for your confidence in electing me to this high and important office. It has been an enviable privilege to work with you and to learn to know you. That has been for me a reward without money and without price.

It has been stated by Hanke, 1940, that the mucous plaque becomes well established again on a tooth surface within 24-36 hours of removal. It is also common knowledge that the clean fresh feeling of teeth immediately after a prophylaxis is quickly lost. It is surprising therefore that it is the universal practice of those who recommend a preliminary prophylaxis before the first topical application of sodium fluoride but continue their succeeding 2 - 4 applications at intervals of perhaps a week between each, without further prophylaxis. Why? If there was need for a preliminary prophylaxis, then there is the same need before succeeding fluoride treatment. It would appear as if they were unwilling to advocate this extra time and care, or that they thought that the preliminary fixation of the F-ions might be removed by subsequent prophylactic treatments.—J. Stanley Bagnall, Dean, Dental Faculty, Dalhousie University.

Most of us seem to have forgotten that medicine and its various subdivisions or specialties is not a true science in the sense in which mathematics and physics are sciences. Science is not a collection of facts but the organization and generalization of those facts and the formulation and understanding of the general laws which govern them. President Conant of Harvard University emphasizes the fact that the great advances in science have come, not from the collection of new data, but from the development of new concepts. We have always been aware in a superficial way that the emotions and personality make-up of a patient may affect the physiology and pathology in that person and later may even effect anatomic changes. In the same way, we have known also that various therapeutic measures, be they surgical, chemical or physical, may produce varying results in different patients or in the same patients at different times depending on their physical and emotional state at the time of treatment.—Bernard B. Raginsky. "Some Psychosomatic Aspects of General Anesthesia" in *Anesthesiology*.

Periodontal Care and Carelessness*

by J. W. NEILSON, B.A., D.D.S., M.S.**

AT the outset of a provocative paper such as this, it might be advisable to voice a few explanatory remarks in a somewhat broad vein.

The dental profession, like other professional bodies, is extremely sensitive to criticism. Much of this sensitivity is just and all of it is understandable. Some individuals may question the propriety of recording a not altogether complimentary analysis of one's own profession of dentistry — a calling whose assembled record of service and achievement should be and is a righteous source of pride to us all. Then too, when one ventures a faintly moralist opinion upon a controversial chapter of dental practice, he risks relegating himself (and his assertions) to the category of sanctimonious pedantry. These and other denunciations may be leveled at this offering and at its exponent although there is neither intention nor desire on his part to assume the role of traitor or hypocrite. Despite these misgivings, the speaker still presumes that his introduction will be presented in as temperate, impersonal and factual a form as is possible and that his remarks will be received and interpreted by his listeners in a similar fashion. If such be the case, the ultimate effect will be good rather than evil.

In the manner of most appearances of specialists or semi-specialists before local dental groups, this presentation will attempt to deal with those phases of periodontology which are related more particularly to the realm of general practice, in the pursuit of which the membership of this society is largely if not completely engaged. As an individual's period of professional residence lengthens in any region, his ob-

servations of his immediate professional environment will, to a greater or lesser degree, influence his professional thinking and conduct. In this province of Alberta, with its great distances and its other geographical, professional and economic characteristics, the general practitioner, if he is to render a more complete, a more ideal and at the same time a more practical health service to his patient and to his community, should (and perhaps must) do more clinical periodontia in all its aspects. The implication of this last statement is that he should devote more of his professional thought and more of his professional time to a comprehensive periodontal service. There is an accumulation of evidence which indicates that, regardless of any present indisposition, he may ultimately be either anxious or forced to render this service.

Another way of expressing this same opinion would be to say that in what some might call a "completely staffed dental profession," the general practitioner would need only note the mere presence of a periodontal condition. Perhaps even that step would be unnecessary. Under this so-called "complete system," any suspicious case would (and indeed all cases might) come under the immediate surveillance of a qualified periodontist located in close proximity to every patient and to every general practitioner. This periodontist would not only treat all cases but he could also quite conceivably examine and diagnose each case initially. Both fortunately and unfortunately, the province of Alberta is some distance from this supposedly professional Utopia. At the present time the dentist and his patient find it necessary to employ other actions and other methods

*Delivered as an introduction to an illustrated lecture before the Lethbridge Dental Society, February 21, 1951.

**Associate Professor of Periodontology and Oral Pathology, Faculty of Dentistry, University of Alberta, Edmonton, Alberta.

which may prevent and may repair the ravages of the various periodontal diseases that, recognized or not, are so widespread in our population.

What other avenues of practice are open to the general practitioner? The speaker should like to be presumptuous enough to suggest a few of the less desirable paths which he has noted as being followed by altogether too many of our colleagues. The story may not be an agreeable one but the facts should be set forth reasonably and periodically if we are to further or even to hold our present position of professional prestige and responsibility. While these observations are expressed as personal views of a "minority" situation in one section of Alberta, they are reflected in the intelligent and informed dental literature elsewhere as well as in conversations with general practitioners and specialists across the continent. The essayist can only assume that these same conditions prevail in this locality.

PROFESSIONAL DEFICIENCIES

Before turning to any suspected professional deficiencies, we must remember that in almost every instance, the patient is strictly a "layman." His teeth and their surrounding tissues he places completely at the mercy of the dentist. In no field of clinical dentistry is this statement more true than in the field of periodontal disease with its notable absence of subjective symptoms. In this country, the layman has every right to expect a high degree of proficiency in his dental practitioner. It follows that, on all matters pertaining to the teeth, the advice of the family dentist is veritably "law." Is this hard won trust and confidence in danger of being abused? In partial answer to that question, here are some of the things which one sees happening today in general practice to patients requiring periodontal attention:

- (1) The condition is not noticed by the practitioner at all.
- (2) The condition is not noticed by the practitioner until "it is too late."

The last four words are most frequently the dentist's own. The question might well be asked of this practitioner, "what exactly constitutes 'too late' in his opinion?"

- (3) The condition is noticed by the practitioner but is completely ignored by him for the duration of his professional relationship with the patient.
- (4) The condition is or is not noticed by the practitioner but regardless of notice, no mention is made of it to the patient, perhaps for years. The dentist continues to administer all manner of dental treatment (exclusive of periodontal) to the patient over this period of time. Then one day the patient is informed in a peremptory manner that "pyorrhea" has suddenly developed and that due to its rapid onset and progress, the prognosis is now hopeless.
- (5) The condition is noticed by the practitioner and while vague mention of its presence is made to the patient, this mention is accompanied by the misconceived but soothing counsel that, "There is really nothing about which to become alarmed; everybody has 'pyorrhea' and anyway, 'pyorrhea is incurable.'" Advice is given to "carry on" until things become irretrievable, at which point a complete extraction will be in order.
- (6) The condition is noticed by the practitioner, usually incorrectly diagnosed and almost invariably incorrectly treated with a consequently poor result. To use a favorite personal expression, "the agony is prolonged," with accompanying bad effects upon the patient's mouth and morale and upon the practitioner's poise, practice and pocketbook.
- (7) The condition is noticed by the practitioner, tentatively diagnosed and referred to a periodontist for further consultation and treatment. The periodontist, usually some distance away, outlines a program of

adequate treatment which, of necessity, involves numerous visits, much time and corresponding expense, all of which are distasteful to and frequently impossible for residents of both greater and lesser centres of population.

- (8) The condition is noticed by the practitioner, who, in a frenzy of diagnostic incompetence, accompanied by a fervent love of exodontia and of its sequel, complete denture prosthesis, promptly recommends a full extraction and the immediate insertion of dentures. Both services he will be most happy to provide forthwith, incidentally.

If it is possible to distinguish two types of practitioners in these examples, the principal objection is not so much to the gentleman who is practising to the best of a limited and mediocre ability as it is to the man who really knows better but who provides no truly constructive ministration to the periodontal pathoses presented by his patients.

It is acknowledged that these practices are carried out most frequently by an ever-dangerous minority. In fairness to the speaker and to his closer associates in general practice, the point should be made that every one of these eight histories is the story of the patient's relationship not with the referring practitioner but with an earlier third professional party. In other words, the unfortunate background initially comes to light not in the periodontist's office but rather in the office of a conscientious and able general practitioner. It is to this latter office that a patient, discontented elsewhere, has gone for advice and service and it is from this office that the patient is usually referred to the periodontist.

Eight avenues of practice have been indicated herein. There are several others, equally or nearly as infamous and as unbecoming to the profession of dentistry. The reasons given for this unhappy state of affairs are diverse and multiple. No portion of this paper will be formally set aside to explain or to

condone them. Suffice it to say that most of the explanations would appear to be the products of apologists who are attempting to vindicate professional and technical shortcomings.

By this time the members may well be asking themselves, "What then does this visitor propose to the general practitioner as a remedy for what he considers a catastrophic situation?" To this unspoken question, one can only reply that a general practitioner may accomplish a great deal if he keeps himself informed on three aspects of clinical periodontia, namely; the prevention of periodontal disease, the diagnosis of periodontal disease and perhaps to a lesser extent, the treatment of early periodontal disease. He can do a great deal for his profession, for his patient, for his practice and for that inner satisfaction which, from time to time, glows in even the most cynical of us.

PREVENTION, DIAGNOSIS, EARLY TREATMENT

Prevention, diagnosis, early treatment: with a theoretical and working knowledge of these three things, the assumption can be truly made that the general practitioner will avoid the eight pitfalls reviewed earlier in this paper. Almost daily, a periodontist sees the unnecessary and lamentable results of these pitfalls for they represent the patients who, through the aforementioned chain of practitioners, find their way to the periodontist's office. One needs a thorough-going knowledge not only of periodontology but also of professional ethics and of human psychology and behaviour to listen quietly and without prejudice to the distressing dental histories these patients present. If only half-truths, the histories tell a story of neglect, ignorance or incompetence and many of these narrations reflect most unfavourably on some of our confrères and hence upon ourselves. Little real solace is offered by the statement that the same sort of abuse prevails in every walk of life, in every profession and in every trade. The presence of abuse elsewhere should

not concern us as much as should the correction of our own abuses at home.

With a theoretical and working knowledge of prevention, diagnosis and early treatment it may be assumed that the general practitioner can recognize incipient and advanced periodontal conditions. He can prevent the former from deteriorating. He can recognize his limitations in treating the latter. He can, along with this recognition of limitation, undertake a treatment plan suitable to the aetiology presented, suitable to his own therapeutic abilities and suitable to the economic and intellectual status of the patient. In pursuing such a course, one may reach what at times amounts to almost a moral impasse in deciding when, where and if to substitute the practical for the ideal. This difficult decision should be made in a professional fashion and in every instance one should be guided by the ultimate intention of all periodontal prevention and therapy—the preservation of a healthy oral cavity and of a healthy body. The foremost aim of all medical and dental treatment should be a restoration to and/or a maintenance of health. Keeping this purpose in mind, one should adopt as his initial axiom in periodontal treatment the idea that the treatment must be done thoroughly and completely or not at all. As an example; if a pocket has developed due to a combined aetiology of a neglect of oral hygiene, a poor proximal contact and an over-hanging gingival margin of a restoration, there is little point in removing the pocket with a superior gingivectomy unless the oral hygiene is improved, unless the contact is properly restored and unless the offending margin is corrected. In this example, the treatment must be more than symptomatic. In the same case, correction of the oral hygiene alone is not likely to alleviate the condition unless the other aetiology is also removed along with the evidence of the aetiology's effect.

By the same token, let us assume that the dentist finds a mouth in which, for physiologic, pathologic, economic or

some other good reason, he genuinely feels the outcome of treatment to be highly uncertain. Rather than adopt half-way measures, would he not be better to extract the teeth without delay, instead of leaving them untouched or disturbed by incomplete therapy? There are likely those who will disagree with this somewhat radical approach of "completely extract or completely treat" the teeth. Some may prefer to follow what can be called a "laissez-faire" attitude. To these gentlemen, one must be prepared to admit that many people have undoubtedly reached old age and eternity with no apparent systemic involvement from an obvious periodontal focus. Moreover, a practitioner is certainly wise to adopt a most conservative attitude in discussing with a patient the probability of a systemic improvement upon the erasure of a periodontal condition. Nevertheless and despite these two foregoing undeniable facts, periodontal foci should be regarded as *potential* sources of trouble in much the same manner as periapical involvements are so regarded by the enlightened practitioner. Furthermore, from a health point of view, the average person would not knowingly tolerate such unhygienic conditions elsewhere in the body.

When a periodontist makes the statement "Treat completely, if possible, but extract rather than treat incompletely," he does so with grave misgivings. He fears that some practitioners will regard this advice as the excuse or the loophole which they have been seeking. There is no intention in the preceding paragraph of having anyone think that because there is a mild generalized periodontal atrophy present and because treatment has not restored the original gingival contour or because one feels incapable of rendering any treatment whatsoever, all the teeth should be extracted summarily. Anyone who has so interpreted these remarks is labouring under a misapprehension. Exodontia is not being encouraged. In our attempt to attain the ultimate goal of health throughout the

body, what is being advocated herein is a thorough practice of complete periodontia and a corresponding elimination of incomplete periodontal practice by the general practitioner.

ECONOMICS

To forestall another relevant question which, at one time or another, must be posed in the minds of all, the economic side of periodontal practice as related to the field of the general practitioner should receive some attention. Having done general practice personally, having heard general practitioners frequently discuss the problem and having the clinical cases of general practitioners referred to him, the speaker believes he can speak upon this necessarily important question with more competence than he can upon certain other aspects of clinical periodontia. As a result of information gleaned from all these sources, he is quite convinced that there are a number of patients in every general practice who are sufficiently interested in the preservation of their natural teeth as to being willing to undergo a sacrifice of time, trouble and expense commensurate with the demands imposed upon them by the general practitioner. One should not imagine for a moment that these patients constitute a majority in an average general practice, but the submission is made that their number are of such a magnitude that the interested practitioner would do well to review his periodontal background, to peruse the current periodontal literature and to give consideration to the modern acceptable methods of periodontal practice. Furthermore, it is submitted that the remuneration in these selected cases (and most certainly they would have to be selected) could be as justifiably adequate as in any other form of general practice.

CLASSIFICATION AND DIAGNOSIS

It has been said frequently and truly that the ideal role of the general practitioner in periodontia should be that of prevention of the disease and not

of repair of the disease's destructive results. At the same time, however, the general practitioner in Alberta should expend additional effort in measuring up to his reparative responsibilities which are even greater here because of the geographical and economic factors prevalent in this area. Keeping these conditioning influences in mind, it is rather difficult to say arbitrarily where the dividing line occurs between the responsibility of the general practitioner and that of the specialist. Undoubtedly, the fields of *initial* classification and *initial* diagnosis lie largely in the realm of the general practitioner by reason of the fact that he sees the patient first. The true specialist rarely, if ever, sees a totally unreferred case. Therefore, the general practitioner must know what constitutes normal and what constitutes abnormal periodontal tissue. To the periodontal specialist is generally assigned the duty of repairing damage created by neglect somewhere, sometime, and by somebody. This perpetual sight of neglect, coupled with the understandable fact that the specialist seldom is given an opportunity by a dissatisfied patient of seeing his own failures, perhaps disposes the specialist to be unreasonably critical of others.

TREATMENT

The acceptable avenues of periodontal treatment cannot be said to be particularly multitudinous but still there is no royal road to success in periodontal therapy. A "cure all" has not been discovered, to the essayist's knowledge, yet dental and also medical practitioners too frequently rely on some easily administered drug or remotely acting reagent entirely. They expect these substances to rectify completely a periodontal condition produced in part at least, by an obvious but overlooked local factor. Such things as ascorbic acid, niacin, penicillin, hydrogen peroxide or aureomycin are prescribed indiscriminately while calculus is left untouched, oral hygiene remains neglected and actual pockets are

neither investigated nor eradicated. At some stage in the treatment plans of the majority of periodontal cases there would appear to be no alternative to time-consuming intraoral procedures (*i.e.*, scaling). Such measures may be regarded as only adjuncts to other therapy but these same adjuncts deserve more consideration than many practitioners presently seem to give them.

If we return to the accepted hypothesis that prevention and maintenance are the most pressing periodontal concerns of the general practitioner, what practical procedures should be emphasized by him? Opinions vary markedly on this point but the following six suggestions are submitted as being of some importance:

1. A correction to and a maintenance of good oral hygiene.
2. A removal of accretions and concretions from the teeth.
3. A correction of occlusal malrelationships.
4. A practice of good restorative dentistry.
5. A general enquiry into the patient's systemic health and habits.
6. A recall system emphasizing frequency and regularity.

The successful pursuit of each and all of these procedures helps to maintain a sound periodontium. The failure to perform any one can result in an additional burden upon, an instability in and an eventual collapse of that peculiar supportive arrangement of the tooth itself. Above all and from a practical point of view, the well-informed general practitioner can recognize the fallacies of treating a case by "half-way" measures, of ignoring a condition completely, of "prolonging the agony" or of recommending the extraction of *every* tooth whose periodontium shows evidence of pathology. All of these abilities can only be based upon a sound knowledge of diagnosis and of its bedfellows, classification and nomenclature, along with an appreciation of aetiology, prognosis and professional ethics.

CONCLUSIONS

Periodontology has developed along paths similar to those followed by many other modern sciences. It is intriguingly void of hard and fast rules. The resultant confusion does not make for easier clinical application either by the specialist or by the general practitioner. The latter, in particular, may find the successful determination of aetiology, diagnosis, prognosis and treatment plan a tremendous challenge. It is a challenge which, quite frankly, is not being met as it should be. What are the reasons for the shirking or failure? The practical majority may say that the fault lies in a lack of patient finance and in a lack of patient education. These factors are admittedly present but the speaker firmly believes that the dental profession, through its practice and (to shoulder some of the blame more personally) through its schools, is at fault as well. The fault is evidenced not only by the profession's own lack of periodontal information but equally so by the corresponding number of uninformed, unappreciative and consequently unattended candidates for periodontal therapy.

There is no intended suggestion in this dissertation that there should be an increased reference of patients to specialists. To the contrary, the speaker would welcome the general practitioner doing more periodontia as long as this most important phase of dentistry is being practised on a sound, conscientious and complete basis. The prime message of this paper then is to ask the general practitioner to return to his practice and there to endeavour to educate himself and his patients to a finer appreciation of a healthy natural dentition. With the added assurance borne of some periodontal reading and of some practical periodontal successes (and failures) he will meet this presently unmet challenge. It is hoped in the future that he will have the confident capacity to undertake a great deal more in the fields of perio-

dontal diagnosis and therapy than he has undertaken in the past.

Finally and perhaps most important, the mere correlation of exhaustive theoretical knowledge with perfected practical proficiency is not the sole key to real accomplishment in periodontia, in dentistry or in any profession. One must possess or develop an added inner sense of dedicated professional responsibility. This concept has been admirably expressed by Dr. Robert Newton, President Emeritus of the University of Alberta, in one of his

"Lectures to Freshmen" entitled, "Your Profession":

"As a man thinketh in his heart, so is he' . . . In the last analysis it is character that counts. That is not something you can acquire by taking a particular course. It is developed by habitually considerate behaviour, habitually acting according to your highest light, habitually keeping the vision of greatness before you. That is the guiding star, the ideal I leave with you for your profession."

Resumé

La périodontologie s'est développée de pair avec les autres sciences modernes; elle ne progresse pas par étapes décisives et rapides. Ses améliorations subtiles ne signifient pas une tâche plus facile pour le spécialiste ou le praticien général. Ce dernier surtout doit trouver compliquée l'élaboration de l'étiologie, du pronostic, du pronostic et du genre de traitement. Ce défi au praticien général, il faut l'admettre, ne reçoit pas la réception qui devrait l'accueillir. Quelles sont les raisons de cette escapade ou de cette faillite? Le plus grand nombre répondra qu'elle est due à la carence pécuniaire des patients ou à leur manque d'appréciation. Ces facteurs existent, mais l'auteur est convaincu que l'exercice de la profession dentaire et aussi ses centres d'enseignement (pour endosser personnellement une partie de l'accusation) sont responsables de cet état de choses. Cette vérité apparaît non seulement dans le peu de connaissances de la profession au sujet des choses périodontologiques mais aussi par le grand nombre de patients, qui ne connaissent pas, qui n'apprécient pas et qui par conséquent ne reçoivent pas la thérapeutique périodontologique appropriée.

Le but de cette communication n'est pas de prôner une référence plus accentuée des patients chez les spécialistes. Au contraire, il nous ferait plaisir de voir le praticien général inclure plus de périodontie dans sa pratique, à condition que ce domaine important de la dentisterie soit placé sur une base solide, consciencieuse et complète. Le principal but de cette conférence est de demander au praticien de retourner à sa pratique et de s'intéresser et d'intéresser ses patients à la santé d'une denture normale. Le contact avec la littérature traitant de périodontie et l'assurance qui suivra certains succès (et certains insuccès) l'aideront à faire face à ses responsabilités dans ce domaine. Il est à souhaiter qu'à l'avenir, il aura la confiance et l'habileté nécessaires pour entreprendre d'avantage dans le diagnostic et le traitement de périodontie.

Enfin, et surtout il faut savoir que la simple corrélation de la théorie approfondie avec le rendement efficace pratique n'est pas à elle seule la clef de la réussite en périodontie, en dentisterie, ou dans n'importe quelle autre profession. Il faut en outre, un sens inné de responsabilité professionnelle, qui peut-être développé, si on ne le possède pas. Cette idée a été admirablement exprimée par le Dr Robert Newton, président émérite de l'Université d'Alberta dans une de ses "Conférences aux commençants", intitulée "Votre profession":

"Le coeur de l'homme guide ses pensées . . . En fin de compte, c'est le caractère qui importe. On ne peut acquérir cette faculté en suivant tel ou tel cours. On la développe par l'habitude de bien faire son devoir, par l'habitude d'agir selon ses conceptions les plus élevées, par l'habitude d'envisager grand."

Je vous laisse cette étoile pour guider votre marche, votre idéal, pour votre professeur.

IN CASE YOU'RE TOO CONTENTED

"Just a little reminder as to how much prices have gone up since 1941 on some budget items: Coffee 474%, Electricity 16%, Soap 60%, Refrigerators 58%, Butter 105%, Gasoline 52%, Beefsteak 248%, Rayon 55%."

Report on the Annual General Meeting of the British Dental Association

by Brigadier E. M. WANSBROUGH, O.B.E., M.M., E.D., Ottawa, Canada

IT was a great pleasure and privilege to act as the official representative of the Canadian Dental Association at the Annual General Meeting of the British Dental Association held in London, England from July 2-6 this year.

With representatives from Australia, New Zealand, South Africa, Malta, Jamaica, Jersey, Eire, Argentina and Norway I was received and given a cordial welcome by the President at the first general meeting of members held in Church House, Westminster.

At this meeting, Mr. H. T. Roper-Hall the retiring President, delivered his valedictory address and Colonel E. B. Dowsett, D.S.O., T.D., F.D.S., M.R.C.S., Eng., L.R.C.P. Lond, was inducted as President. Colonel Dowsett is a distinguished soldier and honoured teacher at Guy's Hospital and a devoted servant of the Association. His inaugural address was described as the distilled wisdom of over half a century's loyal and devoted service to the Association. Then followed the presentation of a Certificate of Honorary Membership to Dr. E. Wilfred Fish, C.B.E., M.D., F.D.S.

The regalia of the Association was enriched by the presentation of a ceremonial mace designed and made by Mr. John F. Gow. The mace is a beautiful example of Mr. Gow's work. The arms of the Association are shown on the head in silver and blue enamel, and the head is carried on a perfect specimen of a narwhal's tusk. Due to the illness of his father, the presentation was made by Flight Lieutenant J. A. Gow.

Every aspect of dental practice was adequately covered by one or more demonstrations. In addition to the 60 or more table clinics and demonstrations, operative and clinical "at homes"

were given by eight of the teaching hospitals in London. Scientific papers, films and the instructive discussions which followed were also a feature.

Of particular interest to me were the demonstrations and exhibits of the Royal Navy, the Royal Air Force, the Royal Dental Corps, the United States Navy and the United States Air Force. These covered a wide range of dental subjects, both service and general, varying from non-corrosive aluminum dentures to a laboratory in one of His Majesty's ships, manned by a civilian technician, as such a trade as Dental Technician does not exist in the Royal Navy.

The social functions began with the Metropolitan Branch Reception on Monday night. It was a celebration of the Golden Jubilee of the Branch and was a brilliant affair. Over 1,100 members and visitors were in attendance at the New Hall, Royal Horticultural Society.

Tours and excursions, golf, and visits to historic sites such as the House of Commons and Tower of London made up a very attractive ladies' program. More than 700 members and guests were present at the Annual Dinner of the Association held at Grosvenor House, Park Lane on Wednesday evening. As a representative of the oldest Dominion, I was given the honour of proposing the Toast to the British Dental Association. The table and seating plan on this occasion exemplified the organization and plans that were exhibited throughout the whole meeting. The hospitality extended and arrangements made were a great tribute to the Committees and to the hard-working Secretary and Assistant Secretary, Mr. H. Parker Buchanan and Mr. S. Donald Cox.

Mass Control of Dental Caries by Fluoridation of a Public Water Supply

by H. K. BROWN, D.D.S., D.D.P.H., Ottawa, Ontario

Chief, Dental Health Division, Department of National Health and Welfare

PRELIMINARY statement on a study of dental caries in Brantford, Sarnia and Stratford, Ontario, by the Department of National Health and Welfare, August 1951.

PURPOSE

Several studies in various parts of the world¹ have indicated that where the public water supply contains, from a natural source, between 1 and 1.5 ppm. of fluorine, the prevalence of dental caries is much lower than where fluorine is not present. These studies have also indicated that dental fluorosis (mottling) occurs to an increasing degree as the fluorine content rises above 1.5 ppm., but that it is mild or absent at and below that level, and that there are no detectable ill effects on general health.

To determine whether artificially fluoridated water would also be effective in reducing the incidence of dental caries, the City of Brantford, Ontario, undertook early in 1945 to add fluorine to its water supply.

HISTORY

Dr. W. L. Hutton, Medical Officer of Health, Brant County Health Unit, took the initiative in water fluoridation in Canada. On his recommendation, fluorine in the form of sodium fluoride was first added to the Brantford water supply in June, 1945, and a fluorine concentration of between 1.0 and 1.2 ppm. has been maintained in the water supply continuously since that time. A prefluoridation survey of the primary school population was carried out by the school dentist, Dr. B. Linscott, who has also recorded the dental caries experience of these children annually since 1945.²

Subsequent to the fluoridation of the

Brantford water supply, the Department of National Health and Welfare was approached in the matter of setting up a controlled study whereby dental caries in Brantford would be compared, over a period of time, with dental caries in both an area having a fluorine-free water supply and an area having a water supply which contained between 1.0 and 1.5 ppm. of fluorine naturally, and the responsibility of setting up such a study was undertaken by Dr. L. V. Janes, then Chief of the Dental Health Division. In 1947 the Department appointed Dr. H. K. Brown to undertake the work. The Ontario Dental Division, under Dr. Frank Kohli, volunteered assistance, as did Dr. G. L. Anderson, Medical Officer of Health for Sarnia, and Dr. H. B. Kenner, Medical Officer of Health for Stratford, and both of these cities entered the study as controls. (The water of Sarnia is fluorine-free, and that of Stratford contains 1.3 ppm. of fluorine from a natural source.) The Research Division of the Department of National Health and Welfare assisted in the statistical planning, and loaned the services of Miss Barbara Stewart in connection with the sampling as well as for consultative assistance in regard to the tabulations.

The first series of surveys was begun in Brantford in January, 1948, with examinations in Sarnia beginning in March of that year, and in Stratford in October. As Brantford had already undertaken the technical work connected with the addition of sodium fluoride to the water and had arranged for daily water analysis under the supervision of Mr. Don Williams, the Brantford Water Works Engineer, the only responsibility assumed by the Department of National Health and Wel-

fare was that of conducting a controlled study of dental caries.

During the early months of 1951, a second set of examinations was made in both Brantford and Sarnia, and a corresponding set in Stratford is planned for the fall of 1951. The present report gives a preliminary summary of results for both the first and second sets of examinations in Brantford and Sarnia and for the first set in Stratford.

SELECTION OF CHILDREN FOR EXAMINATION

To be eligible for examination as a part of this study, a child must, at the date of survey, be at least six but not more than 14 years of age, and must not ever have been absent from the city concerned, for holidays or other reason, for more than six weeks at any one time. The study thus compares a group of children (Brantford) who have used an artificially fluoridated water supply continuously since June 1945 and before that date did not use fluoridated water, with a group (Sarnia) who continuously since birth have not had fluoridated water and a second group (Stratford) who have had naturally fluoridated water continuously since birth. "Continuously" is defined as including periods of absence of which none are of six weeks' or more duration.

Residence eligibility as outlined above is determined from information filled in on slips which have been sent home with the child and filled in by the parent. Secondary schools, as well as primary schools, are canvassed for eligibles.

It was planned to examine, in each city, at least 500 children in each of the three age groups, 6-8, 9-11, 12-14. Since eligible children in Brantford totalled 2,426 in 1948 and 2,598 in 1951, sampling was indicated and was carried out in the following manner. The slips for Brantford eligibles were arranged, by schools, according to the location of the schools throughout the city. Within schools, the slips were arranged by grade in numerical order of grade and in alphabetic order within grades. The

slips for each age group were then numbered consecutively as arranged in this order, and sampled in sequence, beginning with a random start.

The distribution of children examined is shown in Table 1 by age group for 1948 and 1951. In Sarnia and Stratford, all eligible children were examined, since in some age groups it was not possible to obtain even 500 eligibles, and in the other groups the excesses which did occur were not sufficient to indicate that sampling there alone would be necessary. The extent of the excess in the 6-8 group in Sarnia resulted from the inclusion of the students of the village of Point Edward in the study in order to bolster the 12-14 group for Sarnia. For purposes of this study, Point Edward, which is contiguous with Sarnia, of suburban character, and served by the same public water supply, has been considered to be a part of Sarnia.

TABLE 1

Distribution of children examined at Brantford, Sarnia and Stratford, according to age group and year of examination:

Age Group	Brantford		Sarnia		Stratford
	1948	1951	1948	1951	1948
6-8	619	579	669	691	505
9-11	595	578	571	619	432
12-14	593	585	486	506	371
Total	1,807	1,742	1,726	1,816	1,308

METHOD OF EXAMINING AND RECORDING

All examinations of the study have been conducted by the same examiner, using a portable dental examining light (Castle Specialist No. 46) kept at a constant distance, plane mouth mirrors and No. 5 Clev-dent explorers. The lowest limit in size for a caries lesion was defined as one in which the point of the explorer would stick and resist withdrawal, or in which softness was palpable. Hard stained surfaces and enamel imperfections were not recorded as caries. Interproximal edges or roughnesses capable of holding the explorer point were recorded as caries. Oral Hygiene was also recorded, as "good", "fair", "poor". A classification of dental fluorosis (mottled enamel) as

"questionable", "slight", "moderate", "severe" was adopted for recording purposes.

A semi-anatomical type of chart was used for recording. Both deciduous and permanent tooth caries was recorded, giving a value of one cavity to each tooth surface involved, regardless of the number occurring on any single surface. On the occlusal surface of the upper molars, the area of the central pit and that of the distal pit was each given a value of one surface. The same was done for the upper second deciduous molars. This gives a value of six surfaces to all upper permanent molars and to the upper second deciduous molars, and a value of five surfaces to all other teeth.

FINDINGS

Deciduous Teeth

The dental caries experience in the deciduous teeth of the children examined in Brantford, Sarnia and Stratford is shown in terms of df (decayed or filled) teeth in Table 2 and in terms of df surfaces in Table 3 following.

TABLE 2

df Deciduous Teeth Per Child Examined. By Age at Examination		
Survey and Year	6-8 yrs.	9-11 yrs.
Brantford, 1948	5.0	2.4
Brantford, 1951	3.6	2.2
Sarnia, 1948	4.9	2.5
Sarnia, 1951	4.9	2.4
Stratford, 1948	2.2	1.7

TABLE 3

df Deciduous Tooth Surfaces Per Child Examined, by Age at Examination		
Survey and Year	6-8 yrs.	9-11 yrs.
Brantford, 1948	7.4	3.8
Brantford, 1951	6.7	4.5
Sarnia, 1948	8.2	4.5
Sarnia, 1951	9.8	5.1
Stratford, 1948	3.4	2.8

Permanent Teeth

Table 4 following shows the dental caries experience in terms of DMF (decayed, missing, filled) permanent teeth per child, and Table 5 shows it in terms of DMF permanent tooth surfaces per child. (A value of three has been assigned to each missing tooth as an arbitrary estimate of the carious surface index of such teeth.)

The attached chart summarizes

graphically the data given in Table 5.

Attention is directed to the apparent increase in caries which has taken place between 1948 and 1951 in Sarnia where there is presumed to have been no change in either preventive or treatment services. The possible extent and direction of variations of this type must be taken into consideration when assessing the results in Brantford.

TABLE 4

DMF Permanent Teeth Per Child Examined, by Age at Examination			
Survey and Year	6-8 yrs.	9-11 yrs.	12-14 yrs.
Brantford, 1948	1.4	4.1	7.7
Brantford, 1951	0.9	2.9	6.1
Sarnia, 1948	1.6	4.2	7.9
Sarnia, 1951	2.0	4.5	8.6
Stratford, 1948	0.4	1.1	2.5

TABLE 5

DMF Permanent Tooth Surfaces Per Child Examined, by Age at Examination			
Survey and Year	6-8 yrs.	9-11 yrs.	12-14 yrs.
Brantford, 1948	2.0	7.1	13.5
Brantford, 1951	1.2	4.7	10.6
Sarnia, 1948	2.5	7.5	14.4
Sarnia, 1951	3.2	8.2	15.5
Stratford, 1948	0.5	1.6	3.7

TABLE 6

Per Cent of Children Examined Having Caries Free Permanent Teeth, by Age at Examination			
Survey and Year	6-8 yrs.	9-11 yrs.	12-14 yrs.
Brantford, 1948	46.7	5.7	1.2
Brantford, 1951	59.2	17.1	4.3
Sarnia, 1948	41.0	6.1	0.6
Sarnia, 1951	32.7	3.6	1.2
Stratford, 1948	78.4	52.1	27.2

Upper Incisor Teeth (Permanent)

Table 7 following shows the DMF upper incisor teeth per child examined in each of the three cities. The most striking effect of naturally fluoridated water has been consistently demonstrated on the upper incisors (1), and this pattern appears to be developing in Brantford under artificial fluoridation. However, as incisor teeth, fully formed on artificially fluoridated water are not due to appear in the mouths of Brantford children until about 1953, any effects observed to date must be presumed to be mainly topical. Only a part of the central incisor enamel in the younger children of the 9-11 age group in Brantford will have been formed while the children were receiving artificially fluoridated water.

TABLE 7

Survey and Year	DMF Permanent Child Examined, by Age at Examination	Upper Incisor 9-11 yrs.	Teeth Per 12-14 yrs.
Brantford, 1948		0.34	1.05
Brantford, 1951		0.11	0.64
Sarnia, 1948		0.56	1.16
Sarnia, 1951		0.43	1.16
Stratford, 1948		0.01	0.07

Oral Hygiene

Table 8 shows an assessment of the oral hygiene in each of the three cities. It is considered that any claim to a reasonable degree of validity of these figures rests upon the fact that all the examinations to date have been done by the same examiner. Classification and recording of oral hygiene was undertaken because it was considered that marked difference in oral hygiene as between the test and the control groups might conceivably affect the findings—or at least might be taken into consideration as a modifying factor, although not a strictly measurable one.

TABLE 8
Oral Hygiene

Survey and Year	Per Cent of Children Examined		
	Good	Fair	Poor
Brantford, 1948	34.3	30.6	35.1
Brantford, 1951	34.2	32.8	33.0
Sarnia, 1948	19.7	28.0	52.3
Sarnia, 1951	19.2	36.3	44.5
Stratford, 1948	17.8	37.5	44.7

Dental Fluorosis (Mottled Enamel)

"Slight" mottling of the enamel in the form of tiny snowflake-like white patches was observed in the permanent teeth of about 15% of the Stratford children. It was also observed in the deciduous teeth of a small percentage of the Stratford children. Only two cases of "moderate" mottling was seen. These exhibited some small degree of brownish discolouration of the enamel which would not in the opinion of most dentists call for treatment to correct the appearance. No enamel hypoplasia (underdevelopment) associated with the mottling was observed. No cases of "severe" mottling were observed. A small number of cases of "questionable" mottling was seen in both Brantford and Sarnia. The number was about equal for both places. There is no reason to believe that the fluorine content of the Brantford water at its pres-

ent level could cause detectable mottling.

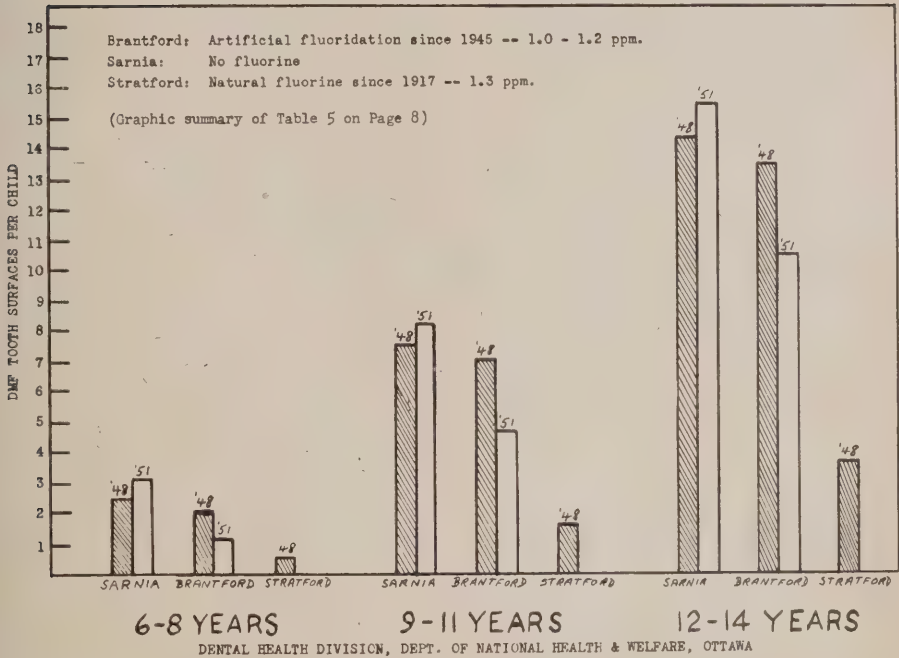
SUMMARY

Although a comparison of certain findings of the 1951 survey with those of the 1948 survey indicates a reduction in caries in Brantford where the public water supply has been artificially fluoridated since 1945, sufficient time has not elapsed to permit a full evaluation of water fluoridation on the basis of this study. The first permanent teeth fully formed while the children were receiving artificially fluoridated water are only now beginning to erupt. The evidence will unfold as the eruption pattern develops. The 12-year molars of the children born in Brantford in 1945 will erupt in 1957. Until they have been exposed to the oral environment for at least two years, the full story cannot be told. In addition, the recordings so far obtained indicate both a higher treatment and an apparently better oral hygiene status of the Brantford children when compared with the controls, and it is therefore suggested that caution should be exercised in the interpretation of the rates shown. The lack of a prefluoridation survey on a comparable basis is a further limiting factor in interpreting the results.

Because of the possible complexities of the problem and the sparse amount of evidence so far available in regard to the extent and direction of the effects of artificially fluoridated water on the incidence of dental caries, it is suggested that any community considering the fluoridation of its public water supply discuss the matter fully with the local dental, medical and water works authorities prior to taking any action.

It is pointed out, however, that any community undertaking fluoridation will be in a position to make a valuable contribution to the evidence now available by recording periodically the dental defects of its child population, beginning with a prefluoridation survey. It is hoped that where such surveys are conducted, uniform practices will be adopted; sound statistical procedures,

PERMANENT TOOTH CARIES EXPERIENCE BRANTFORD AND SARNIA-1948 AND 1951 STRATFORD-1948 ONLY



coupled with a uniform method of carrying out dental examinations and recording data, would make possible the comparison of findings between different communities and thereby add much to the value of the evidence obtained. The Department of National Health and Welfare will be glad to give any community the benefit of its experience in this field.

ACKNOWLEDGEMENTS

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Miss B. J. Stewart, Statistician, Research Division, Department of National Health and Welfare.
Dr. W. L. Hutton, Medical Officer of Health, Brant County Health Unit, Brantford, Ont.

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- Dr. G. L. Anderson, Medical Officer of Health, Lambton County Health Unit, Sarnia, Ont.
Dr. H. B. Kenner, Medical Officer of Health, Stratford, Ont.
Dr. R. G. Ellis, Dean, Faculty of Dentistry, University of Toronto, and Chairman, Associate Committee on Dental Research of the National Research Council.
Dr. F. A. Kohli, Director of Dental Services, Province of Ontario, Toronto, Ont.
Mr. W. J. Murphy, Nutrition Division, Department of National Health and Welfare.
Dr. Bradley Linscott, Dental Officer, Brant County Health Unit, Brantford, Ont.

The years of late maturity are the years of fulfillment, the harvest years of the soul. Even if the actor on the stage of life has become more and more a spectator, life can still be interesting and enjoyable provided we learn to evaluate these late years in their own terms and not in the terms of youth.—Harry Benjamin, M.D., New York.

"Make a success of today, and you need not worry about tomorrow."

Would You Like Your Son To Be a Dentist?

by J. D. REDDIN, D.D.S., Mt. Stewart, Prince Edward Island

THAT question was asked me about eight years ago by a very successful dentist, who had a son of his own. I asked, would you? He said, "Yes, if he took his M.D. first." At the June Convention in Charlottetown I had quite a chat with one of the visitors from another Maritime province. This man is well known and very highly qualified—I would say one of the most successful men in dentistry that we have in this part of Canada. In a reflective mood I asked him the same question concerning his son. He said, most emphatically, "No Sir!" The impression he made on me resulted in this article.

My experience in dentistry is over an eighteen year period, part of it in a fair sized city, and the last few years in a country village. Included was a considerable time working in public dental clinics for the government in schools and in my own office.

To me dentistry has developed like a man in a boy's suit. Restorative dentistry is a finely developed art and the public consider us as skilled tradesmen. As a rule we have good social position, and are expected to live accordingly and give generous support to charities, etc., usually with less income than plumbers or locomotive engineers. Yet half our patients consider us robbers, and only accept our services when driven to us by pain and disease. The privilege of admitting our patients to a hospital is often denied us, unless one of our medical friends assumes the responsibility. We are often the butt of foolish jokes in cartoons, in magazines and on the screen, illustrating to me a lack of public appreciation.

I read with much interest an essay by Dr. S. A. MacGregor in the May issue of the *Journal of the Canadian Dental Association* entitled, "Let's Face the Facts." It was a thought-provoking work and I agree with most of

what he says, but I still can't blame those dentists who prefer to work for a greater proportion of adult patients than children. Maybe as Dr. MacGregor says we are afraid to ask a decent fee for children's dentistry. Perhaps he is right to a certain extent, but I claim that it is practically impossible to collect adequate fees for this work among the average working class people. It is the huge backlog of work, a result of the tremendous neglect, which makes dental rehabilitation so expensive for a family.

It has been said, and I think it is true, that only 20 per cent of the adult population receive regular dental care. To this add about 5 per cent of the children. From this it would appear that our services are not very well appreciated by the general public. Dental services seem to be regarded as a luxury by many. I am sure the public has no idea of what it costs to train and equip a dentist properly. We don't have hospitals equipped and endowed for us to work in. We have to foot the bills ourselves.

We hear a lot about surveys these days. I would like to see one done on the cost of dentistry. What is the cost per hour, for a seven hour day, of running a well-equipped, up-to-date dental office in an average Canadian city? Included in this would be the dentist's education and equipment, amortized over, say, twenty-five years. Perhaps one hundred dollars a month would be fair. Also a pension plan at sixty-five would cost another hundred, exclusive of the old age pension to which some of us may look forward. It wouldn't surprise me, if the average cost ran to six dollars an hour.

I think we can accomplish on an average, about one to two fillings in a half hour appointment, if we don't spend too long lecturing on preventive dentistry to the child's parents. Be-

sides we have to be careful not to tire the child overmuch for fear of making dentistry distasteful to him. Perhaps he is in a hurry for that visit to the confectionery store, as promised by his parent.

The average dentist derives one-half of his income out of one-third of his time spent on prosthetics. It would be disastrous for the older dentist to lose this source of revenue. Is he foolish to live so long? He could have developed a coronary ailment by having two or three chairs and galloping between them as some dental economists have advocated. We could lose our prosthetic practice by just continuing in the *laissez-faire* attitude which has plagued us so long. The boot-leg dentist would like to take it over. By all accounts he is pretty active in many parts of the country. Can you think of anything cheaper or more lowering to the dignity of our profession than this sort of competition? To quote from the July issue of the *Journal of the C.D.A.* It seems that the Incorporated Dental Technicians Association of Great Britain presented a memorandum to the government to the effect that they could save money for the government if permitted to handle all the denture service, impressions, etc.

It is one of the weaknesses of our democratic system that minority groups like ours may have little or no representation in parliament. Also it is a truism that members of parliament are unlikely to be well versed in public health matters. This was well illustrated by the bad handling which the New Brunswick Dental Association received from its provincial government a few years ago. Many will remember the so-called "Fredericton Diplomas" as a result of which several unqualified men were permitted to practise dentistry with impunity.

I regret that this article doesn't bubble with enthusiasm, yet I believe we should face the facts squarely. It would be interesting to have more opinions from dentists across the country. Let's start an argument.

It is my view that since dentistry is now recognized as an important part of preventive medicine, it should now become a specialty of medicine.

Dental technicians should be instructed in our colleges and certified by them. This relationship should be established by law as in the case of the physician and druggist.

Much thought should be devoted to improving our financial status. Perhaps we could exercise some measure of control over dental manufacturers prices.

While I am unfamiliar with group practice, the idea appears to have merit. This is usually done as a company or by individuals bearing a proportionate share of expenses in one office. A young dentist would acquire a practice more quickly under such a plan.

The brightest spot in preventive medicine is the work now being done in the field of public health, particularly in educating the public on nutrition. This is by far the most practical solution to the promotion of good health in the nation and ought to receive every encouragement.

In conclusion please do not get the idea that I regard the problems of dentistry as insoluble or that I don't believe in the importance of the work in which we are engaged. I remember well the unstinting efforts and tireless devotion to the teaching of our science by the men of Dalhousie, in my time, often with little or no remuneration, in the case of part-time professors. They believed in dentistry and there is still nothing which can take the place of good operative procedure, as they taught it, in maintaining oral health.

It is easy to destroy but difficult to build. To keep what is ours and to enlarge and enrich it by well-thought-out plans, is our challenge today. We must unite our efforts.

"This is an age which has made the completely independent self-sufficient man a tragic anachronism."

An Evaluation of the Natural Defences of the Mouth

by M. A. KAMIENSKI, University of Toronto

Canadian Dental Association War Memorial Scholarship Essay, First Award.

"Oh unfortunate Don Quixote! cry'd the Knight, I had rather have lost an Arm, so it were not my Sword-Arm; for a Mouth without Cheek-Teeth, is like a Mill without a Mill-Stone, Sancho; and every Tooth in a Man's Head is more valuable than a Diamond."—Don Quixote. Part I, Book III.

ANY factor, local or systemic, which contributes to proper function and general oral health, may be considered within the scope of, "Natural defences of the Mouth." A defensive mechanism may: a) Prevent loss of function. (b) Restore normal health and function once it has been impaired. There is not a department in the whole field of Dentistry which does not make use of such defences. The dentist today is concerned with promoting preventive dentistry. He attempts to restore the mouth to maximum function compatible with existing conditions and having done so, keep it in a state of health. It is only logical, therefore, to make use of any and all factors which Nature has provided in reaching this objective. In assessing the importance of natural defence mechanisms, we must have a knowledge and understanding of: (a) The physiology of the structures found in the mouth and how it is related to promoting oral health. (b) The aetiology and pathology of disease, so that the potentialities of certain conditions may be evaluated. (c) The normal reaction of the body to malfunction and disease.

MacDonald¹ has concisely expressed the scope of this topic, "The resistance to disease involves many things ranging from the purely mechanical barriers of intact skin and mucous membranes, to the highly complex chemical phenomena of antigen-antibody reactions. The former is an example of non-specific resistance and the latter is a specific mechanism. Our knowledge of non-specific resistance is very limited. Specific resistance, on the other hand,

has been extensively studied and while there are still large gaps in our knowledge of this field, the picture is much more complete." Obviously, it is impossible to divorce the specific from the non-specific. Each is intimately related to the other.

THE PULP

The pulp has been variously described as a highly resistant organ, or as an organ having little resistance or recuperative ability. Its resistance is variable, depending upon cellular activity, nutritional supply, age, etc. On the whole, the resistance of the adult pulp to injury is slight, but evidence of unusual persistence of vitality following injury has been reported by Austin², Boulger³, Gottlieb⁴ and Grossman⁵. The pulp can however, evolve a very efficient reaction if exposed to irritation which may be mechanical, traumatic, thermal, chemical or bacterial in nature. For an acute irritation, an inflammatory response is elicited, while for a more chronic and less intense irritation, the reaction is secondary dentine formation. The blood, lymph and nerve supply of the pulp is excellent, with a rich network of capillaries present. In the normal pulp are found also undifferentiated mesenchymal cells; these may, under proper stimuli, assist the inflammatory reaction by transformation into phagocytic wandering cells, or into fibrocytes⁶.

Under normal conditions, potential for dentine formation continues throughout the life of the tooth. However, the dentine so produced, differs somewhat from primary dentine laid down during formation of the tooth⁷. As a response to attrition and the functional stimulus of mastication, secondary dentine is deposited on the entire

pulpal surface of the primary dentine. Irregular dentine is the pulp's reaction to more severe stimuli. It forms in more restricted areas of the pulpal wall as a reaction to wear, erosion, caries and other external stimuli. Sclerotic dentine, which is often found under slowly progressing caries and abraded enamel, is formed by deposition of calcium salts in and around degenerating odontoblast processes and obliterates the tubules, producing a harder type of dentine as a means of pulp protection⁷. Treatment of pulp exposures has shown that in many instances, secondary dentine formation has made a complete bridge or covering over the pulp and thus has preserved the vitality of the tooth.

ENAMEL

The enamel covering of the tooth is the hardest calcified tissue in the human body and is, therefore, highly suited to withstand the wearing action of mastication. Orban⁷ states that the hardness of enamel increases with progressing age. It is an interesting observation that enamel, the hardest substance in the body, is not susceptible to ordinary bacterial destruction as are other body tissues. However, it is subject to a specific disease of its own—caries. The enamel has no regenerative powers; once it has been attacked by caries, only artificial procedures can serve to protect it. At times we see a condition of arrested caries, but the causes of this condition are not completely understood.

DENTAL PLAQUES

Fosdick⁸ points out that dental plaques will form on any dental surface, particularly in protected areas—"When one considers the various substances to which teeth are exposed, it is logical to assume that there is some protection against all acid foods. Practically any fruit juice will rapidly dissolve teeth in vitro and would do so in vivo unless some protective mechanism were provided. In view of the tremendous buffering capacity of the

plaques, the possibility exists that the normal plaque is nature's protection against acid foods. It is quite possible that the plaque is the last natural barrier against caries and that when it becomes infected with aciduric organisms and impregnated with sugar, it becomes a direct cause of caries."

The type of bacteria in the plaque is a determining factor in caries activity. If the organisms are acidogenic, a carious lesion is likely to appear under the plaque⁹. If acidogenic bacteria are not present, no carious lesion appears. It would seem that the bacterial character of the plaque is the determining factor; but diet, in turn, determines the bacteria.

GINGIVAL PAPILLA

The gingival papilla fills the interproximal space. Assisted by the saliva, friction of food during mastication and by fluid intake, it serves to prevent stasis of food about the teeth by its rubber-like elasticity and smoothness. The interproximal spaces are triangular in shape, thus permitting sufficient bone between the teeth to anchor them securely, at the same time permitting enough space for an adequate blood, nerve and lymph supply to the investing tissues of the teeth.

PERIODONTAL MEMBRANE

The periodontal membrane may be regarded as an alveolo-dental ligament by which the tooth is suspended from the alveolar bone. Only two of the functions of the membrane will be considered here: (a) To transform pressure exerted upon the tooth into a pulling force on the bone. As bone is more resistant to tension than to pressure, the alveolar bone can resist great stresses, even though it is extremely thin. (b) It permits slight movement to the tooth under functional load, thereby acting as a shock absorber. Crown fractures and chipped enamel would be more common if the periodontal membrane did not take up some of the stress of applied forces.

Box¹⁰ points out that the periodontal membrane is continually changing in

structure to meet varying conditions. Moyers¹¹ suggests that orthodontic tooth movement is only possible because of the vascular nature of the periodontal membrane and its rich anastomosing network. He states, "Applying force to a tooth means a portion of the membrane must undergo strangulation, necrosis and regeneration before actual tooth movement will start. The sole reason permanent damage is not done in such cases, is the rich amount of anastomosing of the vessels and collateral circulation can easily be established."

Under heavy function, but within physiological limits, the periodontal membrane shows a fine development of the principal fibres, with a decrease in the amount of indifferent tissue. There is also good development of the supporting bone. With lack of function, the membrane degenerates; the supporting bone shows evidence of resorption and replacement by fatty marrow spaces. Under traumatogenic function, the membrane thickens and rarefaction of the supporting bone develops. The stability of the tooth in the alveolar socket is directly dependent on the condition of the periodontal membrane.

The re-attachment of the periodontal membrane, which through disease, has been torn from the tooth, is still a matter of considerable controversy. "The question of re-attachment of the connective tissue has too long been argued at the level of opinion. The approach from the viewpoint of pathologic and physiologic possibility and by the experimental method is to be commended."¹² Box¹⁰, Linghorne and O'Connell¹³, Miller¹⁴ and others, believe that, under favourable conditions, re-attachment is possible.

CEMENTUM

The cementum is one of the most important parts of the developed tooth. A cavity may be filled, an entire crown may be replaced and the pulp extir-

pated, but no tooth remains fixed in the mouth without cementum. The deposition of cementum is a continuous process; the retention of the tooth, according to Gottlieb¹⁵, is dependent upon this continuous building of cementum. The morphology of cementum is similar to that of bone, however, there are marked differences in the biological behaviour of these two tissues. The resorption and deposition of bone is a continuous physiologic process. The resorption of cementum, on the other hand, is not so common. Moyers¹¹ points out that during tooth movement, bone 'is resorbed in the direction of tooth movement. The periodontal membrane is compressed on this side, therefore, an equal force must be exerted on the cementum, but it does not resorb unless excessive pressures are used. Weinmann and Sicher¹⁶ attribute this lack of resorption on the part of cementum because it is protected by its own growth potential.

HYPERCEMENTOSIS

Hypercementosis, according to Orban⁷, is a favourable reaction to irritation. Miller¹⁴ lists it as one of the radiographic signs of traumatogenic occlusion. It amounts to an increase in the surface area of the root, thus permitting more fibres of the periodontal membrane to become attached to the tooth thereby offsetting the damage done to the membrane and alveolar bone by the pathologic process which initiated bone resorption.

CROWNS AND ROOTS OF TEETH

The length, size and shape of the crown and root of each tooth is important, as well as the angle at which the occlusal surface of the tooth is placed with respect to the root base. The root form depends on the size of the tooth and the work it has to perform. For example, the cuspid, because of its function, would be torn out of its socket, or at least displaced by the forces brought to bear on it if it were not for the fact that the root is of extra size and length.

The crowns of teeth have fairly uni-

*Editorial comment on the work of Linghorne and O'Connell (13). *J. D. Res.* 29: 407. Aug., 1950.

form curvatures at the cervical and middle thirds from the labial (or buccal) and lingual aspects. These contours are of considerable physiologic importance. The curvatures apparently hold the gingiva under definite tension and act as a protection to the gingival margins by deflecting food during mastication. The proper degree of curvature forces the food over the gingival margin, preventing undue frictional irritation, at the same time permitting sufficient frictional stimulation for tissue tone. Undoubtedly many teeth are lost prematurely because certain functional outlines fail to develop, or because malalignment of well formed teeth in the dental arches made important curvatures or dimensions inoperative. Wheeler¹⁷ points out, "When teeth have normal outline, are in proper alignment with normal gingival attachment, the teeth are remarkably self-cleansing." The form of the teeth contributes towards proper dental hygiene when assisted by the actions of the tongue, cheeks, oral fluids, friction of food material during mastication and the intake of fluids.

CONTACT RELATIONSHIP

The proper contact relation between adjacent teeth is important for two reasons: (a) it serves to keep food from packing between teeth. (b) It helps to stabilize the arches by the combined anchorage of all the teeth in either arch in positive contact one with the other. Black¹⁸ stresses the importance of proper contact areas in restorative dentistry. The third molars, when present, and also the second molars, are prevented from drifting distally by the angulation of their occlusal surfaces with respect to their roots and by the direction of the forces brought to bear on their occlusal surfaces. This mesial inclination acts as a buttress to prevent separation of the other teeth in the arches. Separation of the teeth through loss of contact causes a change in tooth alignment which in turn brings about a shifting of the forces brought to bear upon the tooth or teeth during

mastication. Weinmann and Sicher¹⁶ point out that disturbances in equilibrium of the masticatory apparatus by wear or a lost tooth, causes bone to react by apposition in directions which tend to re-establish the lost balance. They suggest that this is brought about by the constant apposition of bone on the distal and resorption on the mesial—possibly stimulated by occlusal forces creating mesial pressure and distal tension.

EMBRASURES

The embrasures between teeth serve two purposes: (a) They form spillways for the escape of food during mastication, a physiologic form which reduces the forces brought to bear upon the teeth during the reduction of any material offering resistance. (b) They make the teeth more self-cleansing, as the smooth, rounded surfaces of the enamel are exposed to the cleansing action of foods, fluids and friction of the tongue and cheeks. It must be pointed out, however, that the embrasures make sub-contact areas less self-cleansing if such areas are not filled by interdental papillae of normal size and contour.

FUNCTIONS OF SALIVA

The functions of saliva are varied and range from purely mechanical to possible bactericidal defences. On the mechanical side, we have the prevention of desiccation of the oral membranes and dental hard structures. It serves to flush the surfaces of the teeth and mucous membranes of food and debris. Its action of flushing bacteria from ducts and surfaces is a safeguard against infection. The studies of Bloomfield¹⁹ clearly show that particles entering the mouth are readily swept toward the base of the tongue and swallowed.¹ The motion of the tongue, lips, cheeks and soft palate, together with the acts of chewing, swallowing and spitting contribute to the removal of organisms from the mouth. Salivary flow is increased considerably in the presence of irritating substances thereby diluting them and if the substances are also

unpleasant to taste, can be removed by spitting. The proteins and salts of the saliva act as buffers which minimize pH changes in the oral cavity. Fosdick²⁰ states: "Saliva from immune mouths tends to have a greater buffering capacity or carbon dioxide combining power, is more highly supersaturated with calcium and phosphate ions and has slightly more ammonia than saliva from susceptible mouths. It does not contain, or will not support the growth of bacillus acidophilus and in the presence of sugar, will not permit acid formation as rapidly as saliva from susceptible mouths."

There is some indication that saliva normally contains antibacterial factors which inhibit the growth and activity of aciduric bacteria and may thus aid in caries prevention²¹. Bibby²² has demonstrated at least two such agents in saliva. One of these is effective against micrococci, sarcinae and bacilli found commonly in air and water. The other, while less potent, effectively kills or prevents growth of those organisms which are not permanent members of the mouth flora. He points out that haemolytic streptococci are destroyed, but mouth streptococci survive in filtered saliva. Organisms such as typhoid bacilli, colon bacilli and staphylococci are completely inhibited. This may explain the fact that suppurative conditions are rarely found in areas freely accessible to saliva, but are more common in protected sites such as deep pockets, abscesses, etc. Lysozyme, an enzyme having bactericidal properties, is found in saliva, tears and sweat, but its importance is not yet clear¹.

The chemical composition of saliva has been the subject of considerable research, and it might be added, controversy. The latter is understandable when we take into account that the saliva is a mixture of the secretory products of various glands. The rate of flow and resultant composition of saliva is directly influenced by such diverse factors as: mastication, general health, respiration, taste, smell, etc. Much of the work done on salivary

composition has been related to the study of caries. Karshan²³ is of the opinion, "The findings indicate that the saliva of persons free from caries would protect the enamel against dissolution by acids to a greater extent than would the saliva of persons with active decay."

With regard to other salivary constituents, opinions vary greatly. Bunting and White²⁴ found high potassium content to be associated with active caries, whereas Wach²⁵ reports that low potassium content is associated with this condition. Kesel et al.²⁶ suggest that the ammonia content is related to caries, while Youngburg²⁷ believes it has no bearing on the caries incidence. Volker²⁸ has shown that the saliva has the property of speeding blood coagulation. It is not suggested that this would have any significance in excessive haemorrhage, however, it no doubt plays a part as a haemostatic agent for minor oral injuries. The ability of saliva to attract leukocytes has been demonstrated by Dietz²⁹ who found that the cells of the blood are attracted to capillaries containing saliva to a greater extent than if the capillaries contained only tissue exudates.

Investigations have shown that persons with a copious flow of stimulated saliva are less susceptible to caries, while those with no saliva invariably have rampant caries^{8, 30}. There appears to be little difference in caries activity between persons having a moderate and a copious flow of saliva. It is known that stimulation of the sympathetic nervous system will cause cessation of salivary secretion and it has been suggested that caries activity increases in times of stress. If so, this may account for increased caries activity during pregnancy⁸.

MOUTH ORGANISMS

Rosebury³¹ states that the oral cavity has the greatest variety of organisms to be found on any mucous membrane of the body. He has found that at least ten groups of organisms are

found commonly in the mouth. There is, of course, no limit to the number and type of transient organisms which may appear. The total bacterial counts reach astronomical figures, ranging from 43 million to 5,500 million per cc. of saliva, with the average being 750 million per cc. of saliva³². The narrow clefts between the gingiva and teeth produce the most favourable areas for bacterial multiplication, especially anaerobic forms³³.

All mucous membranes are sterile at birth³¹, the mouth appears to be the first area to become contaminated (within 6-10 hours) and may be an important source of organisms for other areas. The mouth flora is not constant, but varies with the state and development of oral tissues. The full flora seems to require the presence of teeth and the associated gingival crevice to flourish, as it is greatly reduced in the predentulous and edentulous mouth.

Reyniers³⁴ has shown that "normal" bacteria are not essential to the life of the host. However, it appears that under ordinary conditions, the presence of surface flora is associated with the development of resistance to it and in consequence, may be regarded as beneficial to the host. The hypothesis is widely held that the presence of indigenous flora on the mucous membrane may be a factor in preventing the establishment of nonindigenous forms³¹. Bibby³⁶ states: "The pre-existing bacterial flora of the saliva and mucous surfaces also has a protective function, not only because there are specific antagonisms between some mouth organisms and extraneous bacteria, but also because the pre-existence of a bacterial population has the same protective effect on the underlying tissues that a well-established growth of grass does on a lawn in preventing weed seeds from becoming established.

"There is some evidence that the intact and healthy mucous membrane not only repels nonindigenous bacteria, but also limits the proliferation of and prevents invasion by the normal flora³¹. The defensive mechanisms concerned

are not fully understood, but seem to include the production of such substances as lysozyme and other bacteria inhibiting agents as well as the action of certain organisms in limiting the development of others. The integrity of tissues and cells is important. Tissue or cellular damage is the prime requirement for endogenous infection, thereby providing conditions that permit normally harmless bacteria to proliferate unduly and become invasive."

The fact that simple wounds of the mouth usually heal without infection, suggests that simple trauma of the mucous membrane is unimportant in itself. Mild, but prolonged irritation, however, does have infective sequelae as is evident by the prompt recovery from simple gingivitis that usually follows removal of accumulated food debris and/or calculus from the mouth.

INFLAMMATION

MacDonald¹ suggests that the process of inflammation is, in a large measure, simply an aide to phagocytosis. Zinsser and Bayne-Jones³⁶ define phagocytosis as: "A universal response on the part of the body, to the invasion of foreign particles of dead material, alien cells and of living organisms." At the site of introduction of pathogenic organisms, tissue cells are injured. They release a substance called leukotaxine which has the effect of increasing capillary permeability and inducing migration of polymorphonuclear leukocytes into the area. At the same time, free passage of blood plasma, which during inflammation, has a greater protein content, concentrates in the area. Thrombin is released by disintegrating polymorphs and acts on the fibrinogen to produce fibrin which plugs the local lymphatics, thus preventing dissemination of organisms from the site. Injured cells also liberate a leukocytosis-promoting factor which further aids in phagocytosis by causing an increased discharge of leukocytes from the bone marrow³⁷.

The principal cells concerned with inflammation are the polymorphs, macrophages and small lymphocytes. The

polymorphs are phagocytic for bacteria, living or dead, but are inactive against dead tissue cells or foreign matter. They ingest and digest bacteria by means of ferments. They are present only during the acute stages of inflammation. The macrophages are phagocytic for dead cells, blood pigments and also digest cellular debris and particulate matter. They are the scavenger cells and appear late in the reaction. The lymphocytes appear much later and in large numbers are indicative of some types of chronic inflammation. Their exact function is unknown. Ehrlich and Harris³⁸ and others, believe they are concerned with antibody formation.

Phagocytosis is non-specific, but may be aided by the formation of specific antibodies¹. These are modified blood globulins which develop in response to the presence of foreign proteins or, less frequently, complex carbohydrates. Antibodies specifically oppose the substances that were responsible for their formation. The foreign substances which stimulate production of antibodies are called antigens. Antibodies are formed, it is believed, in the reticulo-endothelial system; the exact mechanism of their development is still uncertain. The various antibodies are carried to the site of bacterial invasion by the blood. The antigen-antibody reactions are highly important defence mechanisms, however, they will only be mentioned briefly here. Opsonins prepare the bacteria for phagocytosis, making them more readily digested by the phagocytes. Opsonins are present in normal blood, but are greatly increased after infection or immunization. Agglutinins clump bacteria together, thereby inactivating them. Antitoxins neutralize the toxic products of organisms. There is no destruction of the toxin, simply a union of the toxin and antitoxin which prevents the toxin producing disease as long as this union exists. Bacteriolysins are substances which are able to lyse organisms. The reaction of lysis only takes place in the presence of "complement" a normal constituent of serum. Precipitins ren-

der the products of bacterial growth insoluble. As mentioned previously, the antigen-antibody reactions are highly specific; which of the above antibodies would be produced in a given instance, would depend entirely on the causative antigen. It is evident that these reactions are a chemical combination³⁹.

SUMMARY AND CONCLUSIONS

Our knowledge of oral defence mechanisms is far from complete. We know that certain organisms, deliberately introduced in the mouth disappear quickly, but we are not certain which of the natural defences were operative, nor their relative importance.

A study of the histology and physiology of the tooth and periodontium suggests a remarkable ability of these tissues, individually and collectively, to produce a protective response to harmful external stimuli. With the exception of enamel, all tooth tissues have, in varying degrees, regenerative powers which function throughout the life of the tooth and may therefore, be considered as protective measures.

The blood, lymph and nerve supply to the oral tissues is excellent. General systemic defences therefore, can and do contribute materially to the maintenance of oral health. The known functions of saliva may all be interpreted as protective. Vigorous research of this secretion is continually bringing forth new evidence of its potentialities for defence.

The presence of an indigenous bacterial flora of such variety and potential for disease, the accessibility to transient organisms and lack of widespread infection, attests to the efficiency of the various defence mechanisms. The factors which determine the kinds and numbers of organisms surviving and thriving in the mouth, underlie the development of a rational oral hygiene.

This paper by no means constitutes a complete coverage of the "natural defences of the mouth". An attempt has been made to discuss some of the fundamental mechanisms which Nature has

provided; it is believed that an awareness of these factors will contribute to the practice of good, sound, preventive dentistry.

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ANNOUNCEMENTS

THE GRIEVE LECTURESHIP;—The Dental Fraternity will be pleased to learn that the halfway mark has been passed in the \$5000. objective for establishment of the George Grieve Memorial Lecture Fund. The Grieve Memorial Annual Lecture will serve as a stimulus to future accomplishments in the field of preventive dentistry and at the same time perpetuate the memory of a great Canadian dentist.

Those who wish to share in this worth while undertaking may send contributions to Dr. Don W. Gullett, 234 St. George Street, Toronto 5, and he will forward a receipt for income tax purposes. The George Grieve Memorial Committee

THE NEXT MEETING OF THE CANADIAN DENTAL ASSOCIATION will be held in co-operation with the British Columbia Dental Association at Hotel Vancouver, Vancouver, B.C.

DATES — Board of Governors Meeting, June 11, 12, 13, 14. and Convention, June 15, 16, 17, 18, 1952.

THE GREATER NEW YORK DENTAL MEETING, which has been conducted annually in New York City since 1924 under the auspices of the First and Second District Dental Societies, components of the American Dental Association, will be held at the Hotel Statler on the dates of December 3-7, 1951.

INTERNATIONAL ASSOCIATION FOR DENTAL RESEARCH: Founded by William J. Gies, December 20, 1920. The 1952 General Meeting will be held at Broadmoor Hotel, Colorado Springs, Colorado, March 21-23, in collaboration with the meeting of the American Association of Dental Schools at the same place on March 24, 25 and 26.

The Forum

FOCAL INFECTION AND THE RHEUMATIC DISEASES

by WALLACE GRAHAM, D.D.S., M.D., F.R.C.P., Toronto, Ont.

Condensed from *International Dental Journal*, June, 1951

Despite a complete absence of controlled observations pointing to its importance, the theory of focal infection still ranks first in the minds of many physicians and dentists when confronted with a rheumatic patient. In many instances the removal of teeth and tonsils is not only the first but the only treatment recommended. The widespread application of this theory has resulted in an appalling loss of oral and pharyngeal tissues without commensurate benefit to the patients. On the other hand, it is possible that the pendulum may swing too far in the opposite direction to a point where infection may be entirely overlooked and considered to be of no significance. Such an attitude is equally unjustified; the eradication of proven infection is surely indicated, if only as a general health measure.

The recently reported dramatic effects following the use of the hormones, Cortisone and ACTH, in many of the rheumatic diseases (Hench et al., 1949) will undoubtedly shed new light on the pathogenesis of these diseases.

In relating the focal infection theory to the rheumatic diseases, attention should first be directed to the all-important fact that the aetiology of many of the rheumatic diseases is unknown. When the actual cause of a certain type of arthritis is known, the treatment is usually obvious.

In the Primer on the Rheumatic Diseases prepared by the American Rheumatism Association, the situation is summarized as follows: "No one now

believes that the removal of an infected focus will alter the course of rheumatoid arthritis, and extraction of teeth, tonsils, gall-bladders and pelvic organs is to be condemned unless they are so diseased that they should be removed for their own sakes. Indeed, wholesale removal of teeth usually is not only useless but actually harmful to the patient through interference with nutrition."

From the above reports it is obvious that there is no unanimity of opinion about the role of focal infection in rheumatic disease.

Over the years this very plausible theory ultimately reached the status of an accepted fact, and thousands of rheumatic patients were doomed to an edentulous existence due to the lack of critical and scientific approach to a subject whose basis was entirely theoretical.

With the use of antibiotic drugs, the types of arthritis caused by susceptible organisms have responded dramatically, but the failure of rheumatic diseases of unknown aetiology (Group II) to respond to such drugs has strengthened the view that they are not infectious in origin.

Acceptance of the theory must still await controlled evidence that foci of infection play a part in their aetiology. After reviewing the unfortunate results of the application of this theory in the rheumatic diseases over a period of 40 years, it is astonishing that it still leads to the wholesale removal of teeth and

tonsils as a "cure" for many forms of rheumatism.

Until better evidence is presented, a sound working hypothesis would appear to be: definitely infected tonsils, teeth, sinuses, etc., are no more in keep-

ing with good health than a furuncle or carbuncle; all infected areas in the arthritic patient should be treated or removed, not as a cure for the arthritis but in the same manner as they would be dealt with if the patient did not have arthritis.

EFFECTS OF LOSS OF VERTICAL DIMENSIONS IN EDENTULOUS PATIENTS

by C. H. GRAHAM, D.D.S., F. TREBITSCH, B.D.S., A. G. ROWELL, D.D.S.

Condensed from Dental Jour. of Australia

In September, 1946, there appeared in the Medical Journal of Australia, an article on Costen's Syndrome by J. C. Bell, stressing the far-reaching and injurious effects of dentures that permitted an overclosure of the mandible. Subsequent to the publication of that article great interest in the condition was shown by the medical profession, so that many patients suffering from obscure head pains were referred to their dentists for investigation of their oral vertical dimensions, especially when the patients were edentulous or partially edentulous.

Unfortunately in many cases the treatment provided has proved of little benefit to the patient but in other cases clear signs of improvement have been noticed.

This overclosure of the mandible may be evidenced by changes in the facial, intra-oral and condylar regions. In the facial changes that occur, shortening of the lower third of the face is evident with a sharpened-chin effect, loss of lip-fullness, puckering of lips, creasing of the corners of the mouth and flabbiness of the cheeks. Intra-orally there may be a decrease in the space for the tongue, as the mandible now occupies a position closer to the maxilla. Restriction of the tongue-movement and placement have been thought to cause backward displacement of the tongue, with possible occlusion of the Eustachian tubes and interference with the function of hearing. Also the muscles of mastication cannot operate to their fullest advantage, so that the patient's masticatory efficiency is impaired.

CONCLUSIONS

1. The onset of loss of vertical dimension in complete-denture wearers is insidious and its progress slow. As the mandible approaches closer to the maxilla over a period of time muscle imbalance develops. The functional length of the internal pterygoid muscles is decreased owing to their reduced working-range which causes muscular inefficiency and partial atrophy. At the same time the external pterygoid muscles are hypertonically stretched by the backward movement of the condyles in their respective fossae. Over a period of time this may cause a forward inclination of the neck of the condyle and, because of the attachment of the external pterygoid muscles to the capsule and the meniscus, may draw the meniscus in extreme cases so far forward as to cause its dislocation. This has been observed by N. L. Harris and other investigators.

It must be obvious that, once this condition is established, its overnight cure is only a pipe-dream. I therefore make this point: it is dangerous to promise a patient that by "opening the bite" some miraculous cure will automatically result, and this applies particularly in relation to the cure of the symptom of partial deafness.

2. Be sure to exclude traumatic, infective and rheumatic types of temporomandibular arthritis before diagnosing a case as Costen's Syndrome.

3. With elderly patients, only in specially selected cases should complete recovery of the normal vertical dimension be attempted immediately, as in

most cases the patient's muscles will not adjust themselves to the new circumstances. The desirability of recovering the lost vertical dimension in successive stages should be considered in these cases.

4. Never open the bite so much that the free-way space is eliminated, as this would cause excessive alveolar resorption until the free-way space is re-established.

5. Determine the degree of recovery of the lost vertical dimension by considering—

- (a) the age of the patient,
- (b) the size and condition of the ridges,
- (c) the size of the denture-space,
- (d) the mental attitude of the patient to a marked change in the bite and facial contour.

6. Most important of all is the old adage that "prevention is better than cure." Never dismiss a patient after the insertion of new dentures without

impressing on him that no dentures are "permanent" because of the ever changing condition of the tissues underlying the dentures. Impress indelibly on the patient's mind the need for returning for regular routine examinations of the bite, no matter how comfortable the bases appear to be. Demonstration of models and photographs of patients who have failed to do so will help in this matter.

7. Finally, try to understand the new concept of the mode of action of the mandible, as propounded by Robinson of Southern California. It will then be clear how by failure to replace lost posterior teeth with a satisfactory fitting denture and maintain it in a well balanced state, a condition can result in which the menisci actually become the fulcrum for abnormal temporomandibular pressure. This abnormal pressure can bring about the symptoms of Costen's Syndrome without any detectable loss in the vertical dimension.

LOCAL ANAESTHETICS IN OPERATIVE DENTISTRY

by ARTHUR H. MORRISON, D.D.S., MARVIN K. RUBIN, D.D.S.,
and MAX SMITH, Ph.D., New York

Summary of paper in *Jour. of A.D.A.*, July, 1951

The following four widely used local anaesthetic solutions made by the same manufacturer were compared as to depth of anaesthesia, induction time and duration of anaesthesia:

Solution 1: Procaine 2 per cent, epinephrine 1:50,000.

Solution 2: Monocaine 1 per cent, epinephrine 1:75,000.

Solution 3: Monocaine 1.5 per cent, epinephrine 1:100,000.

Solution 4: Monocaine 1.5 per cent, epinephrine 1:50,000.

The data on which the conclusions are based consisted of 619 mandibular injections and 967 infiltration injections administered at the operative dentistry clinic, New York University.

With the mandibular injections no differences significant at the 5 per cent level were found among the four solutions, except that Solution 4 had a significantly higher proportion of satisfactory durations (45 minutes or more) than the others.

With the infiltration injections Solutions 4 and 1 were significantly superior to the other two in all respects, except that Solution 1 was no better than Solution 2 and 3 in anaesthesia.

Of the four solutions investigated Solution 4 is the best all-around local anaesthetic for operative dentistry, with Solution 1 next. Solutions 2 and 3 are definitely inferior.

Those who bring sunshine into the lives of others cannot keep it from themselves.—James Barrie

DENTAL EDUCATION

Editorial in New Zealand Dental Journal, July, 1951

The present is a time of change in dental practice, and it is therefore essential for those who prepare the practitioners of the future to plan carefully; to try and see at least a decade ahead, perhaps a generation ahead.

Part of the change is due to scientific discovery, part to progress within the dental profession, and part to the changing outlook of the people we serve. Throughout the world dental research workers are developing expanding programs; throughout the world dental leaders and educators are re-examining their courses of study. Again, the public demand for better dental health is increasing, and governments, ever sensitive to public opinion, are introducing systems of social security which include better provision for dental health. As part of these moves, there has been great international interest in the New Zealand system of school dental nurses.

We tend to lag behind medicine in our use of ancillary personnel. Its even greater problems have long forced the medical profession to use ancillary services. Nursing sisters, Plunket nurses, physiotherapists, dietitians, social workers, and technicians of many kinds are all sharing with the fully qualified medical practitioner his responsibility for the general health of the people. Again, an intricate system of grading and specialization exists in the medical profession itself. The senior physician or specialist surgeon stands at the apex of a pyramid of less experienced, less qualified, medical practitioners at various levels of professional skill and knowledge.

We in dentistry are being steadily forced along the same path. Our own dental school is organized exactly like a general teaching hospital, on a smaller scale of course, but nevertheless with a staff now numbering over fifty—twenty of whom are full-time qualified dental practitioners. The School is organized into departments, each with a specialist head, who has

more junior staff to assist him. As ancillary personnel, the School uses qualified sisters, female dental attendants, radiographers, dental and scientific technicians.

The development of dentistry, which we must anticipate in our dental schools, will trend in the same direction as medicine; with an increased use of ancillary persons trained to carry out routine technical procedures, such as simple fillings and prophylaxis, under our direction; with fully qualified senior and junior general practitioners to carry out the intermediate work, and with an increasing array of specialists for the more difficult tasks.

Together with these three groups, we must train the teachers and research workers on whom the future progress of dental science will depend. This is the most neglected, the most difficult, and yet the most important task that faces those responsible for the direction of dental education: not only to see that the torch of learning is passed on and trimmed to glow more strongly, but also to prepare the torch bearers and the pathfinders—the seekers of the ways of the future.

The research worker in particular needs a sound scientific training; dental research today is exploring all the basic physical and biological sciences: chemistry, physics including atomic physics, biochemistry, physiology, pathology, and bacteriology. We share with medicine problems in growth and nutrition, endocrinology, pharmacology, public health, and even psychosomatic medicine.

There is indeed, no limit to our horizons. As a young, vigorous, and rapidly growing profession, we need as students young men of quality and of intellect, with creative ability, with vision, and the spirit of service above personal reward. We need, too, those who will skilfully and conscientiously carry out the everyday routine procedures of general practice, and we need

ancillary workers specially trained for particular tasks.

Perhaps, above all, we need an enlightened public which recognizes the importance of dental health, which sees

the need to control and eventually eliminate the most common diseases that afflict civilized man, and which will give us the help we need in our great and difficult tasks.

NUTRITION AND SOIL CONSERVATION

Editorial in North-West Dentistry

There is a great need for a better understanding of two very important fundamentals of life : nutrition and soil conservation. This is especially important for professional people, such as dentists, because of the many opportunities they have to be instruments of education and to influence people. Health, efficiency, and even survival are dependent upon good nutrition which, in turn, is dependent upon the soil.

There are millions of people in the world today who are undernourished and many who are close to starvation. In our land of plenty where surpluses are not uncommon, we are in danger of thinking that it will always be so. Man is absolutely dependent upon the "thin green carpet" that covers portions of the earth, and it is not inexhaustible. The soil chemist thinks of this covering as a vital entity upon which most of the living things of earth depend.

With no effort at renewal, the best agricultural land can become exhausted. If this effort is not made, products grown upon this depleted land will be without certain substances essential to the optimum nutrition of both men and animals. Certain elements are absolutely necessary for the production of sturdy bones and teeth. This is of prime importance to dentists. It is their duty to take notice of these matters and to lend their support to all efforts that are made to maintain, repair, and rebuild the soils.

People who are undernourished lose vitality and self-reliance. They are likely to become dependent instead of independent and self-reliant. They become easy victims of propaganda and can be misled by political schemes.

When the thoughtful person realizes that in the past three centuries the

population of the world has increased five fold from 400 million in 1630 to over 2 billion, 200 million today, and the possibility of 4 billion in another 70 years, and when he realizes the miseries of the world at this moment and contemplates their inevitable increase, he rightfully wishes to have all mankind well-fed, well clothed, and well housed. But when he tries to achieve this, he is brought face to face with impossible situations. In his efforts to alleviate the situation through confiscatory taxation, he finds to his dismay that national economy breaks down. Where skill and thrift are not rewarded, and where laziness and incompetence are not penalized, too many are not enthusiastic about work.

Now, we cannot hope to revive in the minds of men and women a proper concept of individual responsibility as long as weak and malnourished people are propagandized in so many directions that they are virtually led from one blunder to another in the conduct of their daily lives. The virility of the self-reliant spirit, the virility of the thinking mind, must in some way be restored to the masses of the people, because democracy is only possible among people who have cultivated the ability to think, and thinking, as we all know is rarely a heaven-born thing but must be industriously cultivated from early youth through . . . life.

Because most people draw upon a wide area for their food supplies, it may be that the matter of soil depletion is not an immediate problem. Its importance for the future, in any long view, however, can scarcely be over-emphasized. The achievements of some of the "organic" farmers are most impressive, showing that thoughtful attention provides great hope.



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Editorial

GOVERNORS' MEETING OF THE CANADIAN DENTAL ASSOCIATION

Success is measured not by material gains, but by work well done, says Theodore N. Vail, and on this basis the Governors' Meeting of the Canadian Dental Association, held in Ottawa in September, was an outstanding success. The chairmen of committees were also present which meant that over thirty men sat around the conference table and conducted a business marathon from Wednesday noon until five o'clock Saturday, working morning, afternoon and evening in order to complete the agenda.

All ten provinces were represented and the meetings were presided over most skilfully by the President, Dr. R. P. Lowery of Toronto. Our Secretary, Dr. Don W. Gullett, having had years of experience, so planned the meetings that all went off with such precision and efficiency that nothing was left to be desired.

The following reports were heard, studied in sub-committees, and finally approved by the governors:— Auxiliary Services, By-Laws, Dental Public Health, Dental Services, Education, Ethics, Executive, Finance, Health Insurance Studies, Hospital Dental Services, Housing, Industrial Dentistry, Legislation, Library, Necrology, Nomenclature, Orthodontics, Pension Trust Plan, President, Program, Publications, Public Relations, Research, Resolutions, Secretary, and War Memorial.

The Canadian Dental Association is fast approaching the stature of Big Business, and as these deliberations and decisions are bound to affect every dentist in Canada, it behooves every dentist to take an active interest in the affairs of our national organization. To accomplish something really worth

while demands much time and sacrifice by those who are willing to serve, but someone has said, "What is got without effort is worth what it cost. Everything that is worth while has a fence around it—but there is always a gate and a key."

This onlooker at this great gathering came away with the feeling that our governors had not only found the gate but also the key. M. H. G.

PROFIT-SHARING

In the September issue of this Journal an editorial appeared dealing with the 1950 survey of the dental profession of the United States. This article stated that almost two-thirds of the dentists employed at least one full-time dental assistant, technician or hygienist and that full-time dentists were employed by one in every fifty. On the basis of this survey there would be employed about 1900 dentists, 3600 hygienists, 3300 technicians and 55,200 assistants. The approximate mean salary of each group was stated, but it was not stated just how they were paid, whether by commission, salary and commission, or straight salary. No doubt the latter plan was the common one but the question of commission, or profit-sharing, depending upon the amount of work accomplished either by the individual or by the office, is often considered.

In the August issue of *Fortune* magazine it was stated that for more than a hundred years business men, as well as social reformers, have been beguiled and bedeviled by the promise of profit-sharing and that the belief that sharing profits with workers is the path to industrial peace and high production has been disproved over and over again, and yet profit-sharing, admittedly, is a firm part of many contracts between labour and industry.

"Profit-sharing is any procedure under which an employer pays to all employees, in addition to good rates of regular pay, special current or deferred sums, based not only upon individual or group performance, but on the prosperity of the business as a whole."

In the last few years hundreds of companies have started sharing from five to more than fifty per cent of their net profits after taking care of dividends and taxes. Some have already been abandoned. Big international labour unions are beginning to explore the possibilities of profit-sharing plans. However, profit-sharing without good labour relations is likely to be repaid by indifference, suspicion and antagonism. Venezuela and Brazil have already made profit-sharing a legal necessity and such a procedure may be adopted in other countries. Under these conditions the consumer could well wonder what share of the profits should go to him in lower prices.

While the situation in professional life may be different, still many of the pitfalls apply.

Profit-sharing alone will not buy cooperation and loyalty for the profit shares are not usually large enough to command goodwill. It is natural also to take such extra money for granted, and to be resentful if the amount is

not forthcoming. In dentistry this will happen if the dentist wishes to take an extended holiday, or is sick, or decides he doesn't wish to work so hard.

Dental employees should be paid a good salary, better than is often paid, and if this is done and working conditions are reasonable, one can expect and demand loyal service. In the case of the hygienist, a commission basis may prove very satisfactory since if she works harder and longer hours she receives automatically a greater reward and her returns are not dependent upon the results of the whole office. However, there is always a probability that jealousy will creep in among the other employees if the hygienist receives extra reward for working longer hours and they are not so compensated. So, from many angles, it would seem wise to pay all dental employees a straight salary and in case of unusual service, to raise the salary accordingly.

M.H.G.

ROYAL CANADIAN DENTAL CORPS NEWS

1. The Defence Dental Association of Canada held its Annual Meeting in Ottawa on September, 27, 28.

2. At the Defence Dental Association Dinner held in the RCAF Officers' Mess on September 27, 1951, attended by The Honourable Brooke Claxton, DCM, ED, MP, the Moore Trophy was presented to Lt.-Col. W. R. Stewart, O.C. of No. 3 Coy., RCDC (R.F.) Edmonton, Alta., by Brigadier E. M. Wansbrough, OBE, MM, ED, on behalf of the donor, Honorary Lt.-Col. S. A. Moore.

3. Capt. R. E. Dyer has been promoted to the rank of Major. Major Dyer was born Sept. 11, 1921, in Winnipeg, Manitoba. On matriculation from high school he entered University of Saskatchewan. There he completed first and second terms in the Faculty of Dentistry. He then moved to Toronto where he entered the University of Toronto. Upon grad-

uating in Dentistry 1945, Major Dyer was commissioned in C.D.C. and has continued in the Service.

4. Major H. W. Hart attended a course on Prosthetic Dentistry at the University of Montreal not the University of Toronto as listed in the July issue of the Journal.

5. Majors N. A. Butcher and F. M. Murray recently completed courses in Endodontia and Crown and Bridge respectively at the U.S. Naval Dental School, National Naval Medical Centre, Bethesda, Maryland.

6. Major S. K. Oldfield a member of the Instructional Staff of the RCDC School gave a clinic on "Amalgam Restoration with special reference to matrix application," at the Canadian Dental Association and Eastern Ontario Dental Association combined meetings in Ottawa, September 24-26.

CANADIAN DENTAL ASSOCIATION NEWS

FROM THE OFFICE OF THE SECRETARY

Director of Royal Canadian Dental Corps Made Brigadier:—Announcement was made on August 23 that the Director General of Dental Services, Department of National Defence, had been promoted to the rank of Brigadier. The promotion of Brigadier E. M. Wansbrough has been long awaited.

The Committee on Dental Services, Canadian Dental Association, studied the rank structure of the Corps, with reference to that existing in other Corps. As a result the following memorandum was submitted to the Minister of National Defence on May 30 last.

"At the initial meeting of the Cana-

dian Dental Association held at Montreal in 1902 the formation of a dental corps was one of the main topics discussed. At every annual meeting of the Association since that time this Association has made a sincere effort to forward the objective of making the Corps one of high standard.

At the beginning of the first world war the Canadian Dental Association made its facilities available in establishing the best Corps which was possible at that time. Between the Great Wars a committee was set up which worked almost continuously toward the establishment of a better service,

if war should come again. As a result, the Association had in readiness in 1939 the complete establishment which we are pleased to say was approved and adopted by the authorities of the day. We relate these facts briefly to indicate our pride in the Royal Canadian Dental Corps, as it exists today. We believe that you are well aware of the commendation received by the Corps during the recent war.

Our interest is to see that the status of the Corps is maintained. In our opinion the usefulness of the Corps has been amply proven in that if men are to be kept in action dental service must be near at hand. It has been repeatedly shown that more service men are incapacitated through dental diseases than any other one malady. Consequently, the existence of the Corps constitutes a great saving of man power so essential in time of war.

Among the recommendations made at the beginning of the last war was that of a tri-service corps. It was our opinion the service was one and it mattered not whether the patient was of army, navy, or air force. We are still of the same opinion and believe that the Corps has functioned satisfactorily on that basis. However, we are of the opinion that the amalgamated service may have adversely affected rank structure in the Corps. This situation can be best illustrated by comparison.

1. If comparison be made with the Medical Services it will be found that any branch (Navy, Army, Air) has higher rank than the rank structure existing in the Royal Canadian Dental Corps. In our opinion there exists here manifest discrepancies.
2. In the United States we find that the U.S. Dental Corps has two Major Generals and two Brigadier Generals for Army, three Admirals for Navy, and one Major General for Air.
3. In Great Britain the Army Dental Corps has one Major General,

12 Colonels and 35 Lieutenant-Colonels.

It has been said, we hope with some truth, that the Canadian Corps was the best Dental Corps Service taking part in the recent war. Such statements have come to this Association from sources outside of Canada. From information received we believe that reflection is now brought upon the Corps because of its present rank structure.

It is observed that the establishment of the Corps has doubled since the reorganization in 1946. We consider that the type of individual attracted into the Corps is of utmost importance and in our opinion career possibility is a determining factor.

In the interests of furthering the high standard of service established by the Corps the Canadian Dental Association, representing 99 per cent of the dentists of Canada, recommends that the senior rank structure of the Royal Canadian Dental Corps be upgraded to some degree of parity with that existing in the Medical Services of the Armed Forces of Canada and the Dental Corps of the British and American Armed Forces."

Library Facilities Available: Indexing of the library has now been completed. Some time will be required to produce a catalogue for the use of the membership. In the meantime books will be loaned on request. The library contains most of the books upon dentistry and related subjects, with particular emphasis upon those published in the last ten years. Requests may be made by naming a particular book or a book upon a certain subject. The book may be retained by the borrower for a two week period, with the privilege of renewal for an additional week, on request, provided that the book has not been requested by someone else. All inquiries should be addressed to:

The Librarian,
Canadian Dental Association,
234 St. George St.,
Toronto, Ontario.

The striking increase in life expectancy has been much publicized. Since the beginning of the century when this expectancy was about forty-seven years in the United States, it has risen to more than sixty-eight for men and to over seventy for women. All this is due to the advances in medicine. In Caesar's day a new-born baby had a chance to live only twenty-one years. And it probably was not much more in the time of Columbus. This low figure was due to the high mortality of infants. The enormous increase in the life span proves the success of paediatrics. Imagine how the conquest of cancer and the successful treatment of arteriosclerosis will further increase life expectancy.—Harry Benjamin, M.D., New York.

NEWS FROM THE PROVINCES

BRITISH COLUMBIA

The opening of the fall school sessions in British Columbia found the preparations for **preventive dental service** completed in some Local Health Units, and well advanced in others. Each dental officer of the Division of Preventive Dentistry had joined the staff of his respective Health Unit; installation of the complete dental equipment in the central dental clinic of three Units had been completed, and in the remainder suitable accommodation had been located, with the arrangements for the installation of full equipment nearing completion. In several cases, the central dental clinic has been installed in the suite of offices housing the Local Health Unit. In some other cases, temporary accommodation has been secured, pending establishment of the clinic in future Health Unit headquarters, and in some other cases, accommodation has been secured in school buildings.

In some districts, preventive services for the younger children started in mid-August.

Several visits were paid to isolated coastal points during the past summer, by dentists using transportable dental equipment supplied by the Division of Preventive Dentistry, and many children received complete dental treatment. It is hoped that such services may be increased in the near future.

New salary schedules announced by the Provincial Government recently now provide for a starting salary for newly qualified dentists working with the Division of Preventive Dentistry of \$5,316.00 annually with proportionately higher salaries for those of greater experience and longer service.

The first meeting of the **Vancouver and District Dental Society** presented, as guest clinician, Dr. Alver Selberg, Clinical Professor of the College of Physicians and Surgeons School of Dentistry, of San Francisco, California. Dr. Selberg is a recognized authority on restorative dentistry. He addressed an afternoon meeting, and later, the dinner meeting, using two motion pictures on various aspects of restorative work, and conducted a discussion of indirect inlay work.

The annual golf meeting of the Society was arranged for the Burquitlam Golf Course, under the chairmanship of Dr. Dick Butler, of New Westminster.

Four graduates of the class of 1951, University of Toronto, joined the staff of

the **Division of Preventive Dentistry** this summer, in the persons of Dr. McLuhan, of Victoria; Dr. Michaelson, winner of the Academy of Dentistry prize; Dr. Siegel, of Kitchener, Ontario, and Dr. Yeo, an honours graduate, and winner of scholarships in preventive dentistry and children's dentistry. These men have been appointed to serve in Local Health Units in North Fraser Valley, Simon Fraser district, North Okanagan, and Cariboo districts, respectively. Dr. Gilbert, a graduate of McGill University, has been appointed to the Local Health Unit of the Upper Fraser Valley, at Chilliwack.

The **Victoria and District Dental Society** opened the fall season with a meeting held on September 17, with Dr. H. R. Turner occupying the chair in the absence of the new president, Dr. R. H. McDougall.

Dr. Poyntz presented a report dealing with relations between the Laboratory Association and the profession.

The guest speaker was Dr. Johnson, from the Department of Surgery, University of Washington, Seattle, Washington. He spoke on "Normal Oral Surgical Procedures," illustrating his remarks with appropriate slides.

As mid-winter approaches, it is time to give some thought to the route we shall take to the meeting of the **Canadian Dental Association in Vancouver next June**. There will be a great combined convention meeting of the British Columbia Dental Association and the Canadian Association, and this, added to the anticipation of a holiday at the Pacific Coast in spring time should provide the incentive for many pleasant winter evening hours, spent in poring over road maps or time tables, planning the trip to Vancouver in June.

Committees are already hard at work, and you shall shortly hear of some of the plans they are making to present the greatest meeting in the history of Canadian dentistry for the fiftieth anniversary meeting of the Canadian Dental Association.

L. G. R.

ALBERTA

At a recent meeting of the **Lethbridge and District Dental Society** the following officers were elected: President, Dr. B. Wayne Matkin; Vice-President, Dr. Van

E. Christou; Sec.-Treas., Dr. Tom O. Whitbeck.—*Alberta Herald*.

SASKATCHEWAN

Saskatoon Dental Society:—The opening session for the fall and winter seasons was held in the Bessborough Hotel in September. The attendance was smaller than usual due to the hunting season. The new Executive was installed and plans for the year were discussed.

President, Dr. F. Bernbaum; Vice-President, Dr. A. Fernet; Sec.-Treas., Dr. E. Lappa.

The new Executive brought forward a tentative program which promises to be entertaining and educational. The society will again sponsor the Illinois Telephone course. The first clinician will be at the October meeting in the person of Dr. Freeman, an oral surgeon from Winnipeg. A welcome was extended to a new member, Dr. Norman Trowbridge.

L. D. H.

ONTARIO

The Eastern Ontario Dental Association held its 75th Annual Convention in Ottawa, September 23-26, and was host society to the Canadian Dental Association in its annual meeting. Dr. Paul Côté in his address typically expressed the warmth of welcome and friendliness always extended guests in our Capital city. Dr. Côté praised the work of his co-workers for their part in completing the excellent arrangements, naming the various committees and their personnel, then concluded with characteristic modesty—"They did all the work, there was nothing for me to do."

Dr. Elwin S. McCartney was elected the new president of the association and in a prepared statement summarized very acceptably the status and objectives of our profession: "Dentistry in Canada is making progress toward its rightful place in the health program of the nation—prevention and control of dental disease. The Eastern Ontario Dental Association as one of the constituent bodies of the Canadian Dental Association will continue to exercise its influence to the utmost in support of this objective during my term of office. The three-fold objective of Dental Health Education, Research and concentration of effort upon treatment of the younger age groups will constitute a challenge to members of the dental profession for many years to come."

The new officers of the association are: President, Dr. Elwin S. McCartney, Ottawa; President-elect, Dr. Harold Beach, Ottawa; Secretary-Treasurer, Dr. E. E.

Johns, Kingston; Auditors, Drs. A. A. Cameron and Thomas Provost, both of Ottawa.

The new councillors are Drs. Paul Côté, W. C. G. Collins, Brig. E. M. Wansbrough, C. E. Woods, J. A. Gauthier, A. C. Stinson, W. H. Pritchard, L. E. M. McLachlan, J. C. Cummings, all of Ottawa and Drs. H. A. Stewart and M. Derrick of Kingston; F. J. Phillips, Brockville; E. M. Murphy, Cobden, and D. S. McPhee, Van Kleeck Hill.

The Faculty of Dentistry, University of Toronto staff letter for October contains some items of general interest. Extra mural lectures have been given as follows: Dr. M. G. Boyes at **Northern Ontario Dental Association** meeting in Timmins on September 8; Dr. Gordon Nikiforuk at **Muskoka-Simcoe Dental Society** in Orillia on October 10; Dr. G. W. Johnston at **Essex County Dental Association** in Windsor on October 25 and Dr. J. E. Moser at **Halton County Health Society** in Oakville on October 24.

Announcements concerning staff changes report the retirement of Dr. H. A. Hoskin and Dr. R. R. Walker. Both men are well known by graduates over many years, particularly Dr. Hoskin. Additions to the staff include Dr. W. J. Ross, as a professor of Dentistry to succeed Dr. Hoskin; Dr. Ross has conducted a successful practice in Kitchener for a number of years. Dr. K. J. Paynter as assistant professor in department of Dental Anatomy and Dr. D. H. Jenkins as associate in Dentistry in the department of Orthodontics are other appointees.

A completely new course in Dental Hygiene is announced as under way. There are eight young ladies registered and the course is supervised by Miss Hebert, a graduate dental hygienist from Columbia University. The course is of two years' duration and graduates are awarded a diploma in Dental Hygiene.

The Toronto Study Club of Dental Technicians held its annual golf tournament at the New Uplands Golf and Country Club on September 7, to compete for the C. L. Daley Trophy.

The golfers, 20 in all, teed off at 1.30 p.m., and the non-golfers were entertained with horse shoe pitching and putting contests. At 7.30 p.m., a grand dinner was served, during which the presentations were made. Mr. Walter Kobald of Woodstock was the winner of the C. L. Daley Trophy, and runners-up were presented with a wonderful assortment of prizes.

Mr. Bob Mitchell of Brantford was the

Lucky Draw winner, and was presented with a Ronson Table Lighter donated by Handy & Harman Co. Ltd.

Much to the surprise and pleasure of our host, Mr. Tom Gallagher, the Club presented him with a golf cart as a small token of appreciation for past favours and his wonderful friendship towards the club.

Guests at the dinner included Mr. Charlie Pierce, Ash Temple Co.; Mr. Bud Bowers, Dental Co. of Canada; Mr. Wilf. Greenwood, National Refining Co., and, of course, our good friends Walter Gildner and Steve Knott were on deck to see that everyone was happy.

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The annual Bonspiel of Ontario Dentists' Curling Association will be held on December 12, 1951, at the Kitchener Waterloo Granite Curling Club.

Enquiries and entries should be directed to Mr. C. A. McKenna, c/o S. S. White Company, 250 College St., Toronto. Do not delay as the entries fill up quickly.

G. V. Morton

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Dr. Frank Martin, F.I.C.D., has been elected to the College-at-Large of the International College of Dentistry. Congratulations, Frank.

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The Annual Dinner Meeting of the Academy of Dentistry, Toronto, was held at the Royal York Hotel on October 16. President Dr. Mark Boyes and his fellow councillors have reason to feel quite satisfied with their first meeting of the year. Members turned out in goodly numbers to hear a capable, well informed citizen of Pakistan, His Excellency, Mohammed Ali. His address was both interesting and informative and was made very pleasing through his genial personality and humour. He said "It was a sign of maturity when a people like Canadians want to know about other countries and other people. In the New World Order all peoples are closer and need more and more to understand each other better. If Canada is to play her role as a great nation in the world, her people must know about other countries and the customs and views of their people."

Mohammed Ali told his hearers, "Pakistan has 100 million people with a civilization that is one of the oldest in the world. The chief difference between his country and India was one of religious belief. Her parliament is similar to that of the Dominion of Canada; Governor General appointed by our King, a central government and provincial governments. The chief language of parliament is English; language of the higher courts of law is English.

Pakistan money is on par with U.S. dol-

lar. She exports 75% of world's supply of jute; she grows more than enough food stuff than is needed for her own people.

The usual comment after the meeting was, "That was one of the best evenings this academy has ever had."

Dr. Harvey W. Reid, a past president of the Canadian Dental Association was presented with an honorary life membership in the Academy of which he also is a past president. Dr. Reid richly deserves this honour in recognition of his services to the profession for many years. He has been previously recognized by election to fellowship in the American College of Dentistry and the British College of Dentistry of the Royal College of Surgeons, England. Dr. Harold Cline of Vancouver, president of the Canadian Dental Association made the presentation.

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A Ladies Auxiliary to the Hamilton Dental Society has been organized recently. The executive includes Mrs. J. V. O'Shaughnessy, Hon. Pres.; Mrs. Frank Whetman, President; Mrs. A. H. Leckie, Vice-Pres.; Mrs. Gordon Spinks, Secy.; Mrs. J. G. Countryman, Recording Secy.; Mrs. D. E. Shultis, Treasurer. Mrs. A. J. Quick is convener of program and Mrs. D. S. Moore, convener of projects.

The membership is increasing steadily and the new auxiliary is keen and active. A project to aid the Dental Clinic at Mountain Sanitorium has been undertaken.

Mrs. J. G. Countryman

QUEBEC

The newly-formed **Montreal Alumni Chapter of Alpha Omega Fraternity** held its first scientific and clinical seminar on September 21, 1951, at the School for Nursing of the Jewish General Hospital.

The guest clinicians for the day were Dr. Charles Brecker of New York City and Dr. I. Franklin Miller of Pittsburg. The President of the chapter, Dr. Robert H. Cohen, opened the proceedings of the day by introducing the National President of Alpha Omega, Dr. Oscar Rosen of Cleveland, Ohio, who was in Montreal for this occasion. The two clinicians for this seminar were introduced by Dr. H. H. Pearson.

The morning session, given by Dr. Brecker, consisted of a discussion of the application of the porcelain jacket crown for anterior teeth, and was adequately supplemented by numerous slides. In the afternoon period, Dr. Miller stressed the precision attachment partial denture.

Dr. Brecker stressed the aesthetic value of the porcelain jacket crown in mouth reconstruction, especially on upper anterior teeth, and it was his de-

sire to point out that when psychosomatic reasons existed for the restoration of aesthetics, the dentist had the moral and ethical right to remove a sufficient amount of hard or soft oral tissue in order to assure the establishment of normal aesthetics. The need here for such destruction is of greater necessity than that which exists for aesthetic or cosmetic reasons alone. The average patient comes to the dentist with some form of tooth irregularity and it is within the latter's right to restore some cosmetic balance to that patient.

Dr. Brecker showed, by means of slides, some of the types of dental problems which are presented to the dentist for rectification among which the following are important: (1) discoloured central incisors; (2) missing post anteriors; (3) diastema; (4) certain types of spaced, short, square teeth; (5) periodontal cases where some of the teeth have moved; (6) some mouth rehabilitation cases. All these types are normally treated by means of one or more jacket crowns.

Dr. Brecker concluded his discussion with a brief mention of electronic surgery and its application in the removal of portions of the gingivae prior to the preparation of the tooth for the porcelain jacket in certain cases only, so that a more aesthetic result might be obtained. After the showing of a film on the construction and cementation of anterior fixed porcelain bridgework, a brief question and answer period ensued.

The afternoon session of the seminar was given over to Dr. Miller whose topic related to full mouth rehabilitation with special emphasis on the use of acrylic restorations. Full mouth restorative dentistry, according to Dr. Miller recognized the fact that no patient must be subjected to the wearing of full dentures too early in life. Since a tooth was not made to withstand forces from the exterior, as by a clasp, but only on an internal axis, the forces should be directed on the internal long axis of the abutment tooth, resulting thereby in the patient's comfort and satisfaction in the prolonged life of these teeth. Dr. Miller also declared that the term "Jacket," instead of "Crown" should be used when referring to the full coverage of an abutment tooth whether it be porcelain, gold, or gold and veneer. All jacket preparations should be made with either full or partial shoulders, resulting in full coverage that is altogether different from the old-fashioned gold shell crown.

Dr. Miller emphasized that the precision attachment restoration was most ideal because it re-established the biological function of cases which were thus treated, where previously these patients

were condemned to the wearing of full dentures; slides depicting the various steps involved in the construction of the precision attachment restoration were shown.

Following this, there was a brief question and answer period, after which Dr. M. Godine presented the two clinicians with gifts of appreciation from the fraternity chapter.

Prov. Ed. Note:—Present at the above seminar were many members of other Montreal dental societies, graciously invited by the Montreal Alumni Chapter of Alpha Omega.

A meeting of the **Mount Royal Dental Society** was held September 18, 1951, with Dr. M. Star presiding.

The guest speaker was Dr. Slater (M.D.), Director of the Department of Anaesthesia, Children's Memorial Hospital; Lecturer in Anaesthesia, Faculty of Medicine, McGill University and Consultant at the Alexandra and Verdun Protestant Hospitals.

The subject of Dr. Slater's most interesting and informative talk was "Reliable General Anaesthesia in the Dental Office." He presented both the indications and contra-indications as well as some of the more common hazards associated with general anaesthesia. He then discussed the various techniques and anaesthetic agents available and concluded by stressing the safety and practicability of the method as well as the fact that a high degree of cooperation between dentist and anaesthetist is essential.

The meeting was adjourned following a motion of thanks by Dr. A. Leith who expressed the appreciation of the members for having had so agreeable and instructive a talk.

S. Silver

The first meeting of the **Montreal Endodontia Society** for the 1951-52 season was held September 17 in the Dental Amphitheatre at the Université de Montréal with the president, Dr. Walter Phelps, presiding.

Dr. George Zimmerman, the clinician for the evening, introduced by Dr. L. Rosen, gave a practical demonstration of the "Opening into an Anterior Tooth for Endodontic Treatment." Following the application of the rubber dam and clamp, Dr. Zimmerman proceeded to open into an upper central incisor following the usual aseptic technique. The opening through the enamel was made at right angles to the lingual surface and then the direction changed to enter the pulp in line with the long axis of the tooth. When the pulp is reached, Dr. Zimmerman suggests changing to a flame bur so that the opening can be enlarged without the danger of creating false

shoulders. Following the taking of a culture, the canal was irrigated and filled to the apex.

The case was an interesting one in that the patient presented himself with a discoloured tooth which produced a slight reaction to the pulp tester. The history revealed a blow received many years ago followed by the gradual discolouration already noted; the present complaint was the colour and the "odd slight tingè or sensation." Examination of the x-ray disclosed a blockage of 1-1½ mm. thickness, of similar density to dentine, in the canal two-thirds of the way towards the apex, (Fig. 1) and what



FIG. 1

appeared to be lines of fracture emanating from that area. By careful manipulation, however, Dr. Zimmerman was able to pass the block via a small distal opening to vital tissue which existed from above the block to the apex.

An interesting discussion took place and it was felt that fracture had taken place and that the blockage was probably adventitious dentine, formed to repair the fracture and to seal off the coronal portion of the pulp which had degenerated, and to keep the apical portion vital. The patient's complaint of the "odd twinge" is probably explained by degeneration lately taking place in the apical portion. Another interesting observation was that there was no evidence, by x-ray, of marked deposition of cementum—although this could easily take place without being discernible short of histological sectioning. The culture test of the above proved to be positive.

Dr. Charles-A. Durand, President of la Société Dentaire de Montréal, promised the cooperation of the French speaking Dentists to Brigadier Guy Gauvreau in the organization of civil defence for Greater Montreal.

Brigadier Gauvreau, coordinator of civil defence for Greater Montreal, was guest speaker at the *Société Dentaire de Montréal* at the monthly meeting held at the Windsor Hotel, last September 18, and was presented to the audience by Dr. Durand.

The coordinator made an urgent appeal to all those entrusted with the health of the population and especially the dentists.

Brig. Gauvreau said that Civil Defence shortly will undertake the recruiting of a large number of volunteers. The objective for Montreal region is 60,000 men and women, and the Health Section will require a fairly large percentage of the total. Many of these Health Section volunteers would serve in first aid posts.

A typical first aid post will be manned by 82 volunteers: 4 doctors, 3 dentists, 6 nurses, 60 first-aiders and medical assistants, 3 dispatch riders and 6 clerks. If enough recruits are available, it is hoped that some 50 auxiliaries will be added to the foregoing minimum personnel. Since there should be a minimum of 100 first aid posts, the number of people needed, exclusive of auxiliaries, would be 8,200. But for adequate protection, Greater Montreal would need 300 first aid stations. And the Health Section of Civil Defence will need volunteers for several services other than first aid.

According to details given last night by Coordinator Gauvreau, first aid centres would be set up along two wide circles around "point zero" (or point of atomic explosion). The inside circle would be 1½ miles distant from point zero and its first aid stations would be 1,000 feet apart; half a mile further out, along the outside circle, first aid stations would be 2,000 feet apart. As no one can guess where point zero would be, Health Section plans call for a hypothetical location and for much mobility and flexibility in the network of first aid posts.

"Dentists would be called upon to carry out important work at first aid echelon," Brig. Gauvreau pointed out, "as oral surgery and orthodontic work can be expected to be performed without delay."

The speaker summarized the duties of the Health section of Civil Defence as follows:

1. Movement, by ambulance or stretcher, of disabled casualties.
2. Evacuation from remaining hospitals of all walking patients, so as to make beds available to the seriously injured.
3. Care of other, uninjured, patients.
4. Provision for medical, surgical and sanitary supplies.
5. Supplying hospitals and first aid posts with water and electricity.

6. Restoring all essential health services.
7. Provision for morgue and burial services.
8. Identification of dead and wounded.

Dr. Herve Deschenes representing Dean Charron of University of Montreal, thanked the speaker and invited him to meet the teaching body and the students to explain his organization.

Dr. E. Vinet, President of the College of Dental Surgeons of the Province of Quebec, attended the meeting.

E. de M.

Annual Golf Meet of la Société Dentaire de Montréal was held September 13 last at St. John's, Quebec, under the joint patronage of Dr. Ephrem Vinet, President of the College of Dental Surgeons of the Province of Quebec, and Dr. Ernest Charron, Dean of the Dental Faculty of the University of Montreal.

Close to 100 dentists and friends tried their skill on the links on that beautiful day and another 50 persons joined them for the buffet-supper in the chalet of the Club.

Among the attendance were Dr. D. P. Mowry, Dean of the Dental Faculty at McGill University, and Mrs. Mowry; Dr. C. R. Seller, President of the Montreal Dental Club, and Mrs. Seller; Dr. J. W. Abraham, Director of Dental Services, D.V.A., in Montreal and Mrs. Abraham; Dr. Marcus Star, President of the Mount Royal Dental Society; Dr. W. J. John-

ston, representing the American Academy of Dental Medicine; Drs. M. S. Phelps and George Zimmerman, respectively President and Secretary of the Montreal Society of Endodontia; Dr. Louis Lepine, Secretary of the Montreal Orthodontia Society, and Mrs. Lepine.

At the end of the supper Dr. C.-A. Durand, President of the Société Dentaire, extended a most hearty welcome to all and presented the trophy to the winner of the tournament, Dr. Remy Decarie, whose gross score of 80 was closely followed by Dr. A. Boisvert's 81. Other challengers were Drs. Pierre Chalifoux, and Paul Manseau. Dr. F. Tetreault had the lowest net score and won the Lafond-L'Abbé trophy. Dr. A. Raymond received the Eudore Dubeau Trophy for the lowest net Class B. Mrs. J. E. Chalifoux won the ladies' championship and the Goupil Trophy.

More than 125 prizes were then distributed to golfers, would-be golfers, and others. From the cards Dr. Ludovic Demers seemed to be the one who had the most exercise on the course, hitting or missing the ball the greatest number of times and for his gallant effort was given the prize and trophy for the most honest player.

The rest of the evening was spent dancing, or chatting or bragging about golf feats, by a beautiful moonlight on the Club terrace.

G. de M.

GENERAL NEWS

The 11th International Dental Congress, London 1952: A contract has been received and has been signed for the hiring by the Congress of the new "Royal Festival Hall" on the South Bank of the Thames near Westminster Bridge. The Hall is a spacious modern building especially constructed as London's official concert theatre. It overlooks the river and provides a view of some of the most famous buildings of the metropolis. Special amenities such as spacious restaurant, earphones throughout the Hall itself for simultaneous translation and many other advantages, make this locale most suitable for the holding of a Congress.

The rent of the Hall for ten days amounts to £4,500. A deposit of £1,500 has to be paid at the time of the signing of the contract and the remaining £3,000 one week before the Congress begins. The deposit has been "advanced" by the F.D.I. as a temporary loan to the Organizing Committee and will be repaid within the next three months.

It is expected that in order to cover

the cost of simultaneous translation, a call system throughout the building and other facilities, overhead expenses will amount to a further £1,000.

In order to insure the risk of abandonment of the Congress through unforeseen circumstances, inquiries have been made with a firm of Insurance Brokers who are preparing quotations to cover a total expenditure of about £15,000 from now until the Congress. It is expected that the rate of insurance will be in the neighbourhood of £2%.

The High Cost of Living:—The advocates of Socialized Dentistry present as their main item, the pretense that most of the people cannot afford to pay for their medical and dental care. Would these same advocates be so eager to endorse the socialization of attorneys under a similar pretext that most persons cannot afford an attorney if they get into trouble or need legal guidance? No one will argue the point that many potential legal cases never come to light for this

very reason. Yet many of those who advocate socialization of the medical and dental professions would not dare enter the thought of socialization of the legal profession, because those who have been a part of the legal profession can see the inherent dangers and pitfalls of such legislation. In a like manner, we the dentists know how the health of the public can best be served.

Let us analyze then, the main arguments that most people haven't the funds to pay for their dental bills.

Dr. Frank G. Dickinson, director of the Bureau of Medical Economic Research, American Medical Association, quotes selected statistics from the "Survey of Current Business" by the United States Department of Commerce, Bureau of Foreign and Domestic Commerce. The following list represents the percentage expenditures for selected items in 1948, in relation to total expenditures for all purposes:

Items	Percentages on the Basis of 100%
Total health care	4.1%
Physician's Services	1.2%
Hospitals	0.9%
Drugs and Sundries	0.8%
Dentist's Services	0.5%
All other Health Care	0.8%
Alcoholic Beverages	4.6%
Recreation	5.6%
Tobacco	2.3%
Personal Care	1.3%
Jewelry	0.8%

The amount of money spent for alcoholic beverages is more than the total health care. Each one of the other eight items is greater than the total dental services and tobacco ranks over four times the total dental services. How can the proponents of socialized medicine use the above theme as an argument for it? The socialization of dentistry is the first wedge which certain bureaucrats hope will eventually lead to the socializing of the entire government!—H.F.S. in *Cleveland Dental Bulletin*.

With regard to **Tobacco and Pulmonary Cancer** the Editor of the Canadian Medical Association Journal has this to say, in part, in the September issue:

The sharply increased and increasing incidence of cancer of the lung within the last quarter of a century is a well-recognized phenomenon in many parts of the world. For some time the increase was thought to be explicable on the grounds of improved diagnosis; but, even if that were still to be accepted, it cannot be the whole explanation. It is natural to look for the cause in something which is directly associated with the respiratory tract, which can be considered as able to produce cancer and has itself shown a striking increase in employment. Such a

factor might be tobacco smoking, and it has been receiving very close scrutiny in the last decade or more, although much of the literature is conflicting and inconclusive because proper analysis of the data is lacking.

Nothing more definite can be said now than that there seems to be strong grounds for presuming that tobacco, especially in the form of cigarettes, is an important factor in the causation of cancer of the lung. Those who wish to smoke will have a somewhat dubious comfort in reflecting that the evidence is not conclusive, and also that heavy smokers do not necessarily develop cancer of the lung; and those against smoking will have further ammunition of a kind. In either case time, as usual, will be a most important element in helping to settle the problem.

Civilian employees in U.S.A. Government:—The total number of civilian employees in the U.S.A. Federal, state, and local governments in 1950—with the defense effort hardly begun—was nearly two million more than the total of ten years ago. In 1950, the total monthly payroll of civilian employees in Federal, state, and local governments increased approximately 170 per cent since 1940. In 1950, the public debt had increased 580 per cent since 1939—and 525 per cent since 1940. Per capita expenditures of all governments (Federal, state, and local) rose from \$131.51 in 1939, to \$392.15 in 1949. Per capita expenditures in 1923, for example, were \$72.47. Expenditures for one governmental unit, the Federal Security Agency, have increased \$343,000,000 since 1941. Aids received by the states from the Federal government for public welfare were 265 per cent greater in 1949 than ten years earlier.—*Civilian Employees in Government—Facts and Figures on Government Finance, 1950-1951*.

The second Annual Dinner and Convocation of the Canadian Section, International College of Dentists was held in the Chateau Laurier Hotel on Saturday, September 22. We were honoured on this occasion by the presence of the president of the College-at-Large, Brigadier General Louis H. Renfrow, Deputy Director of Selective Service, Washington, D.C. General Renfrow addressed the gathering, his subject being "World Conditions as we see it today." We were also honoured to have Dr. Elmer S. Best, Secretary-General of College-at-Large who spoke on the aims and objects of the College.

The following men received fellowship degrees in recognition of their contribu-

tion to Dentistry and Dental Science, the first five names receiving their degrees in absentia while the last seven were present to be received by the president:

District No. 1

Hamilton Ernest Simmons, Vancouver, B.C.

District No. 2

Leslie Talmadge Allen, Lethbridge, Alta.

Clarence D. Husband, Red Deer, Alta.

John Warrington Neilson, Edmonton, Alta.

Wilfrid Murdoch Blair, Calgary, Alta.

District No. 3

Malcolm James MacDonell, Saskatoon, Sask.

Augustus James Brett, Regina, Sask.

District No. 4

Kenneth Malcolm Johnson, Winnipeg, Man.

Albert Reginald Hurst, Brandon, Man.

District No. 5

Harold Arthur Swales, Toronto, Ont.

Cecil Leslie Strachan, London, Ont.

Douglas McGill Tanner, Toronto, Ont.

Thumb Sucking:—A recommendation that special treatment, both psychological and dental, be given to the child who sucks his thumb beyond the age of three and one-half has been made in *The Journal of the American Dental Association*.

"It is a habit which produces a penalty of subsequent deformity out of all proportion to the crime," Dr. Edward S. Mack, of San Francisco, instructor in dentistry for children at the School of Dentistry, College of Physicians and Surgeons declared.

"A feeling that he is loved and is secure should be instilled in the young child," he said.

Dr. Mack, however, took issue with the point of view that prevention of thumb-sucking can cause a deep-seated frustration. Pointing out that there are many natural behaviour patterns which must be curbed or stopped in the child, he named lying, stealing, showing hate openly for persons, having temper tantrums or putting all available objects in the mouth.

"Each of the training processes involving these acts . . . are to a great degree frustrations," Dr. Mack said. "Since it is natural for an infant to put most available matter into his mouth, the stopping of this act is a frustration of a natural behaviour pattern.

"Compared to the intensity of frustration involved in the aforementioned necessary frustrations, the correction of thumb-sucking hardly bears mentioning. It is by no means capable of disturbing the psychic balance to as great an extent as some of these. Yet, this habit is not tampered with because of fear of frustration alone."

Dr. Mack listed possible effects of thumb-sucking as abnormal development of the jaws, misshapen nose and lip

structure, irregular permanent teeth, speech defects and mouth breathing that may lead to respiratory infections.

He suggested as the most effective way of breaking the habit, a device temporarily cemented to the teeth called a "hay rake."

"It represents a series of tines which act as a fence to prevent thumb-sucking and tongue-thrusting," he explained. "The ends of the tines constantly remind the tongue to keep behind the appliance. Used properly, it . . . is always successful."

He said such practices as ill-tasting medicines on the thumb, finger guards, gloves, closed sleeves and the like were often ineffectual in breaking the habit.

Dr. Mack quoted one paediatrician who contended there was no more logic in placing restraints on the child's hands "than there is in putting adhesive tape across the mouth to cure the baby of hunger."

Dr. Mack said continued thumb-sucking was often an "empty habit" rather than a "meaningful" one.

Pointing out that "thumb-sucking undoubtedly may arise from an emotional need," he said that when a child's emotional difficulties are straightened out, thumb-sucking may cease.

"But there usually appears to be a time lag between these two events," he said. "The time lag is often long enough to permit further indulgence in the habit. This time lag may exist for months or even years. During this period, an 'empty habit' persists."

The U.S. Public Health Service has awarded \$179,878 in grants for 25 dental research projects at 19 universities and hospitals. Investigations being financed include the effect on prenatal infants of fluorides administered to the mother during pregnancy; fluoridation of communal water supplies; malocclusion and heredity; calcification, and periodontia.

In setting up eligibility standards governing **financial aid for local public health services**, the Montana State Board of Health has included dental health as one of the seven basic public health services. The action is significant from the standpoint that traditionally public programs have been based on six major functions.

Television in Dentistry:—At the Greater New York Dental Meeting to be held in December, oral surgery and clinical procedures will be presented by television in colour. Four clinics will be presented in natural colour on some 20 television receivers.

Illegal Manufacture of Artificial Dentures Increasing:—Dr. Walter H. Wright, Dean of the New York University College of Dentistry, in an article printed in The Journal of the American Dental Association, reported that the illegal making of artificial dentures by unqualified and unlicensed individuals is increasing. He called for more rigid enforcement of dental laws and particularly pointed out that the making of dentures is dictated by the biologic requirement of each mouth and that it is imperative that every procedure be under the control of the dentist to protect both the patient's dental health and general health. "Design, support and occlusion are interrelated biomechanical requirements which cannot be delegated to the technician," Dr. Wright said.

The Journal of the American Dental Association has editorially praised the **National Congress of Parents and Teachers** for its recent action in condemning the sale of candy and carbonated beverages in the nation's schools. A statement issued by the Congress said these sweets interfered with a balanced diet and the formation of sound health habits.

New Dental Health Pamphlets Available:—The American Dental Association has issued three new pamphlets which will be of interest to dentists.

"The Amazing Adventures of Daredevil Davey," is a comic book which shows how a small boy learns the value of sound teeth.

"The Maintown Dental Health Project" shows what a fictional community can do to improve the dental health of its citizens.

"Diet and Dental Health" treats of the foods that are essential to good dental health.

Sample copies of these pamphlets will be sent on application to the Order Department, American Dental Association, 222 East Superior Street, Chicago 11, Illinois.

In the July issue of the New Zealand Dental Journal J. P. Walsh, D.D.Sc., M.B., B.S., F.D.S.R.C.S., and R. S. Smart, B.D.S. report on "Clinical Trial Of A Penicillin Tooth Powder" as follows:

1. A 2½-year study on a group of orphanage children revealed that a tooth powder containing 100 units of calcium penicillin per gram was no more effective in reducing the incidence of new caries than a control powder not containing penicillin.

2. The powders, considered together, produced a 5 % decrease in new caries

when compared to the attack rate before treatment.

3. It is believed that this result was due mainly to improved oral hygiene.

4. The effect was most apparent in the more susceptible children.

The First District Dental Society of New York is making available for the profession reprints of the major portion of its August-September 1951 issue of The New York Journal of Dentistry, entitled "**Dental Applications of Atomic Energy.**" This reprint, which consists of 48 pages, contains a number of original articles and pertinent comment, bringing the subject up to date from the standpoint of dentistry. Copies may be obtained by applying to the Secretary of the First District Dental Society, Hotel Statler, New York 1, N.Y. There will be a charge of 50c for each copy.

The second annual **Henry Spenadel Award** for significant service to dentistry was presented to **Dr. William J. Gies** by the First District Dental Society of New York on October 3, 1951.

In honouring Dr. Gies the First District Dental Society gratefully acknowledged the importance of his contributions to dentistry in the field of dental education, in furthering the concept that dentistry is a health service profession and in promoting dental research and its literature.

Physicians' Net Income Eleven Thousand, Fifty-eight Dollars in 1949:—The average U.S. physician had a net income of eleven thousand, fifty-eight dollars in 1949. More than double that of 1929, according to a survey by the United States Department of Commerce, reported recently.

Six Million Dollars in Dentifrice Ads.—More than six million dollars was spent by dentifrice manufacturers on national advertising in U.S. Sunday and Daily newspapers in 1950, *Advertising Age* revealed recently. Colgate Dental Cream led the list with one million, eight hundred and seventeen thousand, five hundred and thirty-seven dollars worth of newspaper advertising and Colgate's runner up was Pepsodent, with five hundred and eighty-one thousand, eighty-six dollars expended. A close third was Am-I-Dent Tooth Paste, with five hundred and thirty-three thousand, eight hundred and twenty-three dollars.

A.D.A. Relief Fund Campaign Reaches \$91,404.00.—A new all-time high of ninety-one thousand, four hundred and

four dollars was contributed in 1950-51 to the A.D.A. Relief Fund Campaign which ended July first. During the campaign, a total of twenty-six state societies contributed more than one hundred per cent of their quotas which is also

a new record. Two societies, Southern California and Alabama, more than doubled their quotas. The total contributions represent a gain of eight thousand, three hundred and fifty-seven dollars over last year's receipts.

Joy of Life—This is the true joy of life, the being used for a purpose recognized by yourself as a mighty one; the being thoroughly worn out before you are thrown to the scrap heap; the being a force of nature instead of a feverish selfish little clod of ailments and grievances complaining that the world will not devote itself to making you happy.—George Bernard Shaw, "Man and Superman."

IN MEMORIAM

Orland Kingsley Gibson of Ottawa died at his home on September 27, at the age of 73.

Dr. Gibson was graduated from the College of Dentistry of the Royal College of Dental Surgeons of Ontario in 1902. He began practice in Ottawa. During the first world war he was deputy director of the Canadian Army Dental Corps and served overseas for four years and rose to the rank of Lieutenant-Colonel. He was awarded the M.B.E. and the O.B.E. and presented with same by King George V. Dr. O. K. Gibson, as he was familiarly known, was elected a life member of the Royal College of Dental Surgeons.

Dr. Gibson was a member of Civil Service Lodge A.F.&A.M.; Lodge of Perfection and Rose Croix of the A.A.S.R.; a former member of the Laurentian Club, the Rivermead and Ottawa Hunt Clubs, the Ottawa and Glebe Curling Club and the 43rd D.C.O.R. He was a past president of the Eastern Ontario Dental Association, the Ottawa Canoe Club and twice Commodore of the Canadian Canoe Club.

Dr. Gibson was always a keen sportsman. He played football and hockey in his younger days but had always displayed keen interest in all sport.

He is survived by his widow, one son and one daughter.

Arthur Lewis McLachlan of Carman, Manitoba, aged 80, died early in September.

He was keenly interested in the work of the church, having been Sunday School Superintendent for 12 years and a Sunday School teacher for over 30 years. He was also a choir member and an honorary member of the United Church Board.

He was an active member of the tennis club, Carman I.O.O.F., and the horticultural society.

Dr. McLachlan is survived by his widow and two sisters.

Thomas B. Hartzell of Minneapolis, Minnesota, aged 85, prominent dentist and educator, died in September following a lengthy illness.

DIRECTORY

Canadian Dental Association Headquarters—234 St. George Street, Toronto, Ontario.

Matters relating to the publication of manuscripts or news items for the English Section of the Journal should be addressed to the Editor-in-Chief, Dr. M. H. Garvin, 314 Somerset Building, Winnipeg, Manitoba.

Matters relating to the French Section of the Journal should be addressed to the French Editor, Dr. G. de Montigny, 400 est Blvd. St. Joseph, Montreal, P.Q.

Matters relating to the business of the Journal should be addressed to the Business Manager, Dr. Don W. Gullett, 234 St. George Street, Toronto, Ontario.

All changes of address should be sent to Dr. Gullett before the 20th of the month, to become effective the following month.

Matters relating to advertising should be addressed to the Advertising Representative, Mr. W. E. Halder, Consolidated Press, 73 Richmond Street W., Toronto, Ontario.

A propos de l'action nocive des ciments au silicate sur la pulpe dentaire

par le Prof. A.-J. HELD, JEAN MATTHEY méd.-dentiste et LILIANE EPARS, doct.-chim. (Genève)

Les accidents pulpaux survenant à la suite de l'insertion de ciments au silicate sont connus depuis de nombreuses années, mais leur fréquence varie considérablement en fonction de la technique d'application de ce matériau d'obturation. En effet, certains praticiens ne parlent de ces ciments que pour mettre en évidence leurs défauts et leur nocivité alors que d'autres enrégistrent apparemment un nombre très restreint d'échecs et d'accidents. Ces derniers se traduisent par des *nécroses pulpaux* évoluant sans bruit, ou, au contraire, se manifestant par des périodontites, des phlegmons, des abcès ou d'emblée par une fistule. Elles peuvent intervenir de manière brutale en 2-3 jours après le traitement, mais le plus souvent des semaines ou des mois après l'insertion de l'obturation. Ce sont là des faits incontestables dont la fréquence, bien que variable selon les statistiques, n'en permet pas moins d'incriminer directement le ciment au silicate.

Le mécanisme de ces nécroses est encore discuté, mais la plupart des auteurs attribuent l'action nocive du ciment à l'*acide phosphorique* constituant la partie essentielle du liquide. En mesurant le pH du liquide de divers ciments, nous avons constaté, pour les ciments translucides, des chiffres voisins de 3,8, pour les ciments opaques au phosphate de zinc, des valeurs variant entre 4,2 et 4,6; il est possible d'admettre que cette acidité exerce une action nocive sur le contenu des canalicules dentinaires et par leur intermé-

diaire, sur le tissu pulpaire proprement dit. C'est ce qu'ont clairement démontré des expériences chez l'animal.

Mais par ailleurs, Prader a constaté sur plus de 50 cas de pulpites sous silicates, que le contrôle bactériologique du tissu pulpaire révèle *toujours une infection*. Cette dernière peut présenter deux caractères assez différents: dans les cas à *évolution lente*, on trouve la présence de microcoques, de bâtonnets Gram-négatif, aux-quels s'ajoutent parfois de petits bacilles fusiformes. L'examen histologique de la pulpe montre qu'il s'agit d'un processus de nécrobiose vraisemblablement attribuable à la pénétration progressive des germes (pionniers) d'un foyer de carie, c'est-à-dire ceux se trouvant dans les canalicules de la dentine encore dure. Par contre, lorsque le processus est *rapide et aigu* (accident survenant 2-3 jours après l'insertion du ciment), on trouve, associés aux éléments Gram-négatifs, les streptocoques dont la présence signe une infection surajoutée, d'origine exogène. En tenant compte de ces expériences, on serait porté à admettre, avec Prader, que les deux types d'accidents (précoces et tardifs) sont tous deux attribuables à un processus infectieux: c'est du moins ce que semble démontrer l'étude bactériologique du problème. Mais pourquoi alors n'observe-t-on pas avec la même fréquence des accidents du même type sous d'autres matières obturatrices (aurifications, ciments au phosphate de zinc, amalgames)? On enrégistre parfois des pulpites ou des

nécroses sous des amalgames, des couronnes Jacket, et récemment on a décrit de multiples irritations et nécroses pulpaire auxquel les peuvent donner lieu les résines autopolymérisables, si l'on ne prend pas certaines précautions.

Pour notre part, nous attribuons volontiers, dans les accidents pulpaire sous les silicates, une large part de responsabilité à l'infection, en tenant compte de divers éléments d'observation :

Nous savons que le processus de la carie, lorsqu'il atteint la limitante émail-dentine par l'intermédiaire d'une "cheminée" plus ou moins large à travers l'émail, possède une remarquable tendance à se propager le long de cette limitante, cela d'autant plus que l'infiltration en nappe de la dentine s'accompagne d'une rétraction tissulaire en direction centripète (Gottlieb, Held). Il en résulte que l'on trouve souvent à une distance appréciable du foyer de carie une *infiltration microbienne sous-adamantine, largement étalée, infiltration se traduisant par une coloration jaune-brunâtre plus ou moins perceptible*. La résection de cette zone en nappe nécessite souvent le sacrifice d'une importante masse d'émail, sacrifice auquel le praticien ne se résout pas volontiers, surtout en direction de l'angle des incisives où précisément l'infiltration paraît s'étendre avec une prédilection particulière. Volens, nolens, il laisse persister dans cette région, parfois dans d'autres, une *zone infectée susceptible de jouer un rôle (actif) ultérieurement*. Ce rôle infectieux en vase plus ou moins clos est souvent favorisé par le fait que les rétentions taillées au voisinage de l'émail ne sont pas complètement remplies par le ciment, et les micro-organismes trouvent dans ces circonstances un espace leur permettant de se (rapprocher) de la zone pulpaire.

L'observation courante montre que les accidents pulpaire sous les silicates sont surtout fréquents chez de jeunes sujets ou chez ceux d'un âge plus avancé présentant une phase d'atteinte particulièrement floride de la carie. En d'autres termes, les réactions pulpaire se manifestent d'une part dans les cas où la structure de la dentine est caractérisée par des canali-

cules larges, et d'autre part, lorsque la réaction de dentine secondaire est faible par rapport à la *rapidité d'extension du processus de carie*. Enfin, autre constatation digne d'intérêt : les accidents surviennent presque toujours sous une première insertion d'un silicate, alors que le renouvellement de silicates dans d'anciennes cavités retaillées et agrandies n'est pour ainsi dire jamais suivi de complications pulpaire. On peut en tirer la conclusion que ces complications ne surviennent pas lorsqu'il s'est établi une barrière biologique entre le ciment et le tissu pulpaire, barrière s'opposant à la pénétration des micro-organismes. Mais l'aspect bactériologique du problème n'est pas le seul à considérer. Divers auteurs (Palazzi, Fasoli, Zander) ont clairement démontré que les lésions pulpaire correspondent toujours, au début, à la région des *odontoblastes dont les prolongements dentinaires (fibres de Tomes) sont en contact direct avec le ciment inséré*. Ces lésions apparaissent même dans des conditions où le ciment a été inséré avec des précautions rigoureuses d'asepsie dans des cavités taillées en plein tissu sain. Dans ces cas, on pourrait invoquer une réaction provoquée par le traumatisme (action de sectionner les fibres de Tomes, échauffement, etc.), mais la responsabilité spécifique du ciment peut être mise en évidence par le fait que l'insertion d'un ciment à l'oxyde de zinc-eugénol ne donne lieu qu'à une réaction pulpaire négligeable, parfois même nulle, alors que l'application d'un ciment au silicate est suivie de l'éclosion d'un processus inflammatoire, parfois nécrobiotique.

Force nous est donc d'admettre l'intervention de *facteurs autres que l'infection ou l'irritation mécanique, et qui sont liés à la nature et à la composition du liquide des ciments translucides*.

Nous avons repris le contrôle du pH de divers ciments d'obturation en utilisant un appareillage composé de :

1. Un pH mètre Beckman, modèle H₂ alimenté par le courant alternatif.
2. Une électrode de verre Beckman No 4990 permettant de mesurer le pH compris entre 0 et 9.

3. Une électrode de référence au calomel saturé, Beckman No 4970.

4. Une petite cuve renfermant de l'eau distillée neutralisée au pH 7 pour une première série d'essais et à 7,3 pour une seconde série au moyen d'une solution de NaOH, N/10.

Les mensurations ont porté sur trois types de ciments: Syntrex de Trey, Solila de Trey et Ames.

Dans une première série d'essais, chaque échantillon, préparé selon la technique propre à chacun d'eux et pour réaliser la consistance prescrite, a été plongé, sitôt la spatulation terminée, dans 10 cc. d'eau distillée au pH neutre. La détermination du pH a été effectuée en plongeant les deux électrodes (électrode de verre et électrode de référence) dans le liquide à analyser, en l'occurrence les 10 cc. d'eau contenant l'échantillon de ciment, l'appareil Beckman donnant directement le pH de la solution.

Ciment Syntrex:

Durée de l'immersion	pH du 1er échantillon	pH du 2e échantillon	pH du 3e échantillon
3 minutes	3,9	3,8	3,9
10 minutes	3,8	3,6	3,7
20 minutes	3,5	3,65	3,5
30 minutes	3,5	3,55	3,5
1 heure	3,45	3,5	3,5
6 heures	3,8	3,9	3,8
12 heures	4,1	4,05	4,15
18 heures	4,4	4,49	4,48
24 heures	4,7	4,6	4,65
72 heures	5,25	5,22	5,22
1 semaine	5,68	5,66	5,71

Ciment Ames:

Durée de l'immersion	pH du 1er échantillon	pH du 2e échantillon	pH du 3e échantillon
3 minutes	4,9	5,2	5,3
10 minutes	4,6	5,05	5,1
20 minutes	4,65	4,85	4,8
30 minutes	4,65	4,75	4,7
1 heure	4,7	4,75	4,7
6 heures	5,20	5,15	5,15
18 heures	5,5	5,48	5,45
24 heures	5,6	5,58	5,75
72 heures	6,50	6,10	6,0
1 semaine	7,49	7,50	7,60

Ciment Solila:

Durée de l'immersion	pH du 1er échantillon	pH du 2e échantillon	pH du 3e échantillon
3 minutes	4,35	5,0	5,05
10 minutes	3,95	3,9	4,2

20 minutes	3,9	3,9	4,15
30 minutes	3,92	3,95	3,95
1 heure	3,95	3,98	3,98
6 heures	4,3	4,35	4,35
12 heures	4,45	4,50	4,42
18 heures	4,65	4,63	4,65
24 heures	4,71	4,75	4,72
72 heures	4,90	4,85	4,88
1 semaine	5,15	5,15	5,15

Dans une seconde série d'expériences, les échantillons de ciment sont placés, après spatulation, dans une étuve humide maintenue à la température de 37°. Ils sont immergés dans 10 cc. d'eau neutralisée au pH 7,3. Après un temps variant de 3 à 72 heures, la lecture du pH se fait comme précédemment et immédiatement après l'immersion.

Ciment Syntrex (durée de la spatulation: 1 min):

Temps écoulé entre la spatulation et l'immersion	pH
3 minutes	4,65
10 minutes	6,35
20 minutes	6,57
30 minutes	6,70
1 heure	6,90
6 heures	7,20
12 heures	7,20
24 heures	7,20
72 heures	7,30

Ciment Ames (durée de la spatulation: 30 sec.):

Temps écoulé entre la spatulation et l'immersion	pH
3 minutes	6,40
10 minutes	6,55
20 minutes	6,90
30 minutes	7,00
1 heure	7,02
6 heures	7,25
12 heures	7,30
24 heures	7,30
72 heures	7,35

Ciment Solila (durée de la spatulation: 30 sec.):

Temps écoulé entre la spatulation et l'immersion	pH
3 minutes	6,30
10 minutes	6,70
20 minutes	7,00
30 minutes	7,20
1 heure	7,20
6 heures	7,20

24 heures	7,30
72 heures	7,35

Conclusion de ces expériences:

1. Le pH mesuré par la technique du pH mètre correspond à l'acidité active ou libre; cette technique ne tient pas compte de l'acidité potentielle, qui peut vraisemblablement être considérée comme accessoire dans le problème qui nous intéresse.

2. Dans les expériences de la première série on constate pour les trois ciments un abaissement initial de pH, ce qui paraît dû au passage en solution d'une certaine partie des ions acides qui sont secondairement repris par les oxydes métalliques de la masse du ciment.

3. Lorsque le ciment est immergé immédiatement et maintenu dans l'eau durant des temps variables, le pH, après sa phase d'abaissement, ne s'élève que lentement, ce qui est dû vraisemblablement au fait qu'une partie des ions abandonnés par l'acide phosphorique ou les phosphates acides et passés dans le liquide, ne sont repris que lentement, à moins que le contact de l'acide carbonique de l'air n'intervienne pour modifier le pH du liquide. Il est possible également que le ciment subisse une hydrolyse alcaline.

4. Dans les deux séries d'expériences le ciment au silicate est celui dont le pH initial est le plus bas.

Conclusions générales:

Nos constatations semblent être en contradiction avec les faits rapportés dans diverses publications (y compris le récent ouvrage de l'un d'entre nous et consacré aux *Traitements dentaires conservateurs*). En effet, les expériences dont nous fournissons les résultats dans le présent article montrent clairement que le pH initial des silicates est plus bas que celui des ciments au phosphate de zinc, et que, pour les uns et les autres, il se produit durant une première phase et dans certaines conditions d'expérimentation (série No 1), un abaissement passager du pH,

abaissement dont le point inférieur correspond à 30-60 minutes après la spatulation. Mais il est probable que les expériences de la seconde série se rapprochent davantage des conditions biologiques du fait que le degré d'humidité, dans les cavités, n'est pas suffisant pour absorber, comme dans les expériences No 1, les ions acides non encore liés par réaction chimique. Par conséquent nous devons admettre que c'est l'acidité initiale du ciment au silicate qui doit être prise en considération au point de vue biologique.

Cette acidité peut vraisemblablement exercer une action destructrice sur les germes infectieux situés dans la cavité directement en contact avec le ciment, mais non sur ceux se trouvant à une certaine distance de ce dernier, comme c'est le cas dans la zone délimitant la dentine de l'émail (voir plus haut).

Les contradictions auxquelles nous faisons allusion proviennent sans doute du fait que les conditions d'expérimentation des divers auteurs ne sont pas les mêmes et qu'il est d'autant plus difficile de les comparer, que leurs techniques ne sont pas décrites. Nos deux séries d'observations montrent clairement qu'en modifiant les conditions, on enregistre des résultats susceptibles d'aboutir à des conclusions erronées.

Jusqu'à preuve du contraire, nous admettons, sur la base de nos résultats d'expérience, la nocivité réelle des ciments au silicate et l'innocuité relative des ciments au phosphate de zinc, à condition que ces derniers ne soient pas placés au voisinage immédiat de la pulpe dont l'humidité permettrait une certaine "absorption" des ions acides.

Le ciment au silicate, dont le pH initial est très bas, peut provoquer des lésions par deux mécanismes: action directe de la concentration des ions H sur le contenu des canalicules dentinaires ou action décalcifiante superficielle sur les parois dentinaires non isolées, d'où création d'un espace vide favorisant secondairement la propagation de l'infection.



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Réunion du Bureau des Gouverneurs de l'A.D.C. à Ottawa, en septembre 1951

Il y aurait beaucoup à écrire au sujet de la réunion des dirigeants de l'Association Dentaire Canadienne, qui s'est tenue à Ottawa, les 19, 20, 21 et 22 septembre. On sait que cette assemblée annuelle des délégués de chaque province du Canada, conjointement avec les présidents de Comités chargés de l'étude de certains problèmes particuliers à la profession dentaire, permet de faire le point sur les réalisations de l'année écoulée et d'élaborer des projets pour l'avenir.

L'atmosphère qui a entouré les délibérations était différente de celle des réunions précédentes. Autrefois, la stabilité financière de l'Association était vacillante et changeante; toutes les questions, qui frôlaient le trésor de notre Association, étaient discutées de façon incertaine et les décisions étaient toujours prises sans fermeté dans des conditions alléatoires.

On ne pouvait jamais s'engager à fond dans des entreprises de longue haleine; on temporisait, on remettait à plus tard, en un mot, on ne pouvait pas compter sur le "nerf de la guerre" essentiel pour toute organisation du genre de la nôtre.

L'an dernier, la cotisation annuelle de chaque Collège provincial a été rendue uniforme et depuis cette entente, le budget a été stabilisé; on sait d'avance quels argents l'Association recevra durant l'année courante et connaissant ces revenus on est en mesure d'établir un bilan des dépenses conforme aux besoins de chaque activité, en tenant compte des recettes. Cet ordre, mis dans les finances, a permis à date l'acquisition d'un immeuble, qui loge les quartiers-généraux de l'A.D.C.; il a facilité l'organisation d'une bibliothèque nationale à la disposition des dentistes canadiens; il a doté le

secrétariat d'un personnel nécessaire pour mener sa tâche à bonne fin; grâce à lui, on a pu doter les divers Comités d'études d'une somme indispensable pour leurs dépenses.

En un mot, cette stabilisation des finances de l'Association lui permet la préparation d'un budget solide et aéré.

Durant ces échanges de vue, tous les Comités ont présenté des rapports constructifs et très au point. Il serait trop long de commenter chacun de ces rapports; d'ailleurs, tous les membres de l'Association recevront une copie des Délibérations.

Parmi les réalisations transcendantes de l'année 1950-1951, il faut citer le travail accompli par le Conseil d'Enseignement dentaire. Une enquête a été menée sur place, dans chacune des cinq facultés dentaires canadiennes, par un Comité de trois éducateurs de marque. Ces enquêteurs ont examiné l'organisation des cours et des cliniques et ont présenté aux autorités universitaires des suggestions propres à améliorer le rendement de leur enseignement. Durant trois ans, ces visites se répèteront pour tenter de rendre uniformes—en tenant compte des circonstances de culture et de milieu—la formation des dentistes canadiens.

Un autre projet en bonne voie d'être mené à bon port par le Conseil est l'établissement d'un Bureau National des Examineurs accepté par chaque province. Ce Bureau permettra l'accréditation par les Collèges provinciaux, de dentistes qui changent l'endroit de leur pratique. Durant l'année passée, des représentants des dix provinces du pays se sont rencontrés pour accepter les grandes lignes de ce Bureau. Seuls les détails doivent être réglés avant l'entrée en fonction de cet organisme national sous l'égide de l'A.D.C.

On continue de s'intéresser au problème du nombre des dentistes canadiens en rapport du chiffre de la population. Cette question est plutôt sombre pour l'avenir. Actuellement, les écoles dentaires forment une quantité suffisante de diplômés, mais après 1952, le nombre des nouveaux dentistes sera nettement insuffisant pour les besoins du peuple canadien, surtout si l'accroissement de la population marche au même rythme. Les solutions à cette difficulté sont de différentes natures: augmenter les disponibilités actuelles des maisons d'enseignement dentaire; faire connaître aux jeunes des collèges la profession de dentiste; convaincre les institutions d'enseignement secondaire de pousser leurs programmes scientifiques pour mieux préparer leurs candidats à l'admission dans les facultés dentaires. De toute façon, l'Association a établi une politique bien ferme de ne baisser en rien les exigences pour l'immatriculation des débutants en chirurgie dentaire.

Une des tendances les plus prononcées de l'Association est de donner plus d'ampleur et de directive aux relations de la profession dentaire avec le grand public. L'homme de la rue doit bien connaître tout ce qui touche aux thérapeutes chargés de veiller à son hygiène dentaire. Trop souvent, des journalistes et des écrivains de revues se chargent de renseigner le public—la plupart du temps d'une façon incorrecte—sur tout ce qui a trait à la chose

dentaire. L'Association s'évertue—et elle le fera avec plus d'efficacité, à l'avenir—à censurer ces écrits pour que la population soit mieux renseignée; elle verra elle-même à préparer des communiqués et des émissions radio-phoniques pour illustrer le vrai rôle du dentiste, sa formation scientifique et les moyens modernes dont il dispose pour combattre les maladies dentaires. L'Association ne fait en cela que suivre l'exemple de corporations, de compagnies et de groupements professionnels et autres qui ont institué des services de relations extérieures pour soigner leur publicité et s'attirer la sympathie de leur prochain.

Pour terminer, il faut noter que toutes les séances, où siégeaient les délégués ou les présidents de Comités d'étude, se sont déroulées dans une ambiance des plus cordiales. Les problèmes sont envisagés non avec une conception mesquine de clan ou de clocher, mais avec un esprit vraiment national, détaché de tout provincialisme chauvin. Ces réunions du Bureau des Gouverneurs, où se côtoient des dentistes canadiens de toutes les provinces, favorisent l'éclosion d'une unité vraiment nationale.

Il est regrettable, toutefois, qu'un nombre si restreint de dentistes assiste à ces discussions, où ils sont cordialement invités et où ils ont droit de parole. Ces confrères qui puiseraient dans ces délibérations des renseignements des plus intéressants sur tous les aspects de l'exercice de la profession dentaire. Dans deux ans, en 1953, ces assises se tiendront à Montréal et il est à souhaiter que tous les dentistes—surtout ceux qui s'occupent d'organisation au Collège ou dans nos sociétés dentaires—soient présents à ces séances.

GERARD DE MONTIGNY

Comment sont vos Dents?

Les dents constituent une nuisance d'une valeur incalculable. Il faut s'en occuper continuellement et, pourtant, plus les règles de l'hygiène sont respectées au sein d'une nation, plus ce peuple souffre de ses dents.

Le Dr Hans H. Newmann, qui s'occupe de recherches à l'Université Columbia, est d'opinion que tout ce qu'un être civilisé peut faire pour ses dents est de les défendre chèrement. Le Dr Newmann écrit dans le New York State Journal of Medicine, non sans une pointe de résignation spartiate: "Les pays, où la brosse à dents est utilisée à outrance, sont constitués d'individus dont les dents sont mauvaises; tandis que les conditions d'hygiène dentaire sont pauvres dans les contrées où les dents sont franchement meilleures." (Le Dr Newmann pensait particulièrement à un fait cocasse observé au Congo: une infirmière indigène, qui avait perdu plusieurs dents et qui en avait plusieurs autres obturées, enseignant à ses compatriotes—qui avaient tous des dents parfaites—comment se servir d'une brosse à dents.)

Repasant les progrès médicaux (ou leur absence) réalisés dans la lutte contre la carie, le Dr Newmann trouve des lacunes flagrantes en théorie et en pratique. Une diète balancée ne donne rien: les peuples les plus mal nourris possèdent les meilleures dents. Les vitamines n'ont pas d'effet notable. Le Dr Newmann élimine l'hérédité, le climat, le soleil. La valeur des fluorures n'est pas prouvée. Le seul facteur qui est toujours présent, quand on se trouve en présence de dents saines, est une mastication vigoureuse et une nourriture coriace. Dès qu'on s'approche des ustensiles et des bonnes manières de table, la carie s'installe.

L'ordonnance pour des bonnes dents: mastiquer du pain noir et dur confectionné par les paysans européens. Encore mieux, laisser les enfants mâcher de la canne à sucre brute.

Comme ni le pain européen, ni la canne à sucre ne peuvent être trouvés dans les villes des Etats-Unis, le Dr Newmann conclut: "La mâchonnement des crayons, d'objets en cuir ou en bois, par les enfants, doit être considéré comme une habitude instinctive saine et non comme un symptôme de dérangement mental."

Le baccalauréat "ès arts" est-il nécessaire à l'étude de la chirurgie dentaire?

par PAUL-E. POITRAS D.D.S., Montréal

**Une maison bien construite exige de bonnes fondations.
L'histoire aide à résoudre les problèmes les plus complexes.**

Les éducateurs en chirurgie dentaire, sans oublier les fondateurs de l'école dentaire de Baltimore, Horace-H. Hayden et Chapin-A. Harris, ont lutté contre l'ignorance de leurs contemporains, en exigeant de leurs élèves une connaissance de plus en plus grande des lettres et des sciences enseignées dans les écoles primaires et secondaires.

La chirurgie dentaire est une profession libérale divisée en deux parties principales: une partie mécanique et une partie théorique. Dès le commencement de l'art dentaire, l'effort convergeait vers l'enseignement de la mécanique; la meilleure préparation du dentiste était d'acquérir le meilleur doigté possible pour réussir une obturation ou une pièce de prothèse.

Une habileté manuelle poussée était préférée à la formation réellement scientifique.

Cette importance accordée au côté pratique est un mal en lui-même: certains dentistes, encore aujourd'hui, hésitent à s'en débarrasser; ils croient que le concept utilitaire reste le but ultime, négligeant ainsi d'augmenter leurs connaissances intellectuelles. D'année en année, les programmes des études dentaires se sont étendus davantage grâce à la culture plus générale des étudiants qui les abordent. Ces nouvelles générations sont plus aptes à assimiler une science qui s'efforce de donner une notion plus vaste de la chirurgie dentaire et de permettre au praticien de pratiquer l'hygiène dentaire par un travail mieux conçu.

L'éducation dentaire au Canada et aux Etats-Unis a suivi une longue marche ascendante. Autrefois, le dentiste commençait sa vie professionnelle par un apprentissage dont le rendement dépendait de la bonne volonté et des connaissances

du précepteur. Les développements rapides de la science dentaire demandèrent vite un meilleur enseignement.

La profession dentaire ne suivait en cela que l'essor des autres professions. Ces résultats surprenants favorisèrent l'organisation de l'école de Baltimore, en 1840, et améliorèrent l'instruction de l'étudiant grâce à la fondation successive de sociétés scientifiques: en 1866, "Association of Colleges of Dentistry"; en 1883, "The National Association of Dental Faculties"; en 1893, "The American Institute of Dental Teachers"; en 1908, "The Association of American Universities"; en 1920, "The American Association of Dental School"; en 1928, "The National Board of Dental Examiners." (Thomas Cowling D.D.S., septembre 1949, *Oral Health*.)

L'expérience des membres de ces associations, leur jugement et leur influence ont exercé un effet marqué dont la profession a tiré profit.

Au cours des cinquantes dernières années du dix-neuvième siècle, les écoles dentaires américaines se multiplièrent rapidement, sans soucis de donner aux élèves une instruction adéquate aux besoins. Plusieurs étaient des sociétés anonymes dont les mises de fonds devaient produire des dividendes; leurs étudiants, les frais de scolarité acquittés, demeureraient libres de suivre à leur fantaisie les cours pratiques et théoriques. Au commencement du vingtième siècle, les exigences d'instruction primaire, pour l'immatriculation dans ces écoles devinrent plus difficiles. L'unification des études dentaires améliorait l'enseignement. Peu à peu les écoles privées firent place aux écoles affiliées aux universités; ces universités avaient un examen d'immatricula-

tion, exigé par toutes les facultés avant l'ouverture des cours de la première année.

L'histoire dentaire des États-Unis, dans son ensemble, est la même que l'histoire dentaire canadienne. D'un art, la chirurgie dentaire est devenue une profession libérale en moins d'un siècle. Des cours de perfectionnement donnés aux États-Unis ou au Canada sont suivis par les dentistes des deux nations; de plus, nombre de directeurs de sociétés américaines sont des canadiens. La facilité de transport et la frontière commune ont créé un voisinage utile à tous les praticiens.

La première école dentaire canadienne, Royal Dental School, ouverte à Toronto en 1875, et l'Association Dentaire Canadienne, fondée à Montréal en 1902, comme des fruits en gestation ne prirent pas leur essor sans difficultés. Les épreuves terminées, les écoles dentaires canadiennes, maintenant au nombre de cinq, furent acceptées comme membres actifs de l'American Association of Dental Schools. Halifax, Toronto et Edmonton possèdent une école, Montréal en a deux, dont l'une française et l'autre anglaise.

Le docteur W. J. Gies, en 1926, écrivait: "Avant 1867, les dentistes canadiens, sans statuts, ne se souciaient ni d'étiquette professionnelle, ni d'éducation: aucune revue dentaire, chargée de défendre leurs droits; un apprentissage, de trois à douze mois, était la seule préparation nécessaire au praticien. Les médecins-dentistes et quelques chirurgiens-dentistes diplômés des écoles dentaires américaines, étaient plus instruits. (*Carnegie Reports of 1926.*)"⁽¹⁾

John McKee, 44 rue Sainte-Anne, à Québec, fut le premier dentiste diplômé d'une école.

Même si le brevet et l'immatriculation ont été jugés indispensables à l'entrée des

professions libérales, il n'en demeure pas moins vrai que le cours classique⁽¹⁾ avec comme couronnement le baccalauréat "ès lettres," "ès-sciences" ou "ès arts" a, de tout temps, été reconnu, dans la province de Québec, comme la meilleure préparation aux cours universitaires. Toutefois l'école de Baltimore et les autres furent de longues années avant d'avoir un examen d'immatriculation, comme le remarque le docteur Harlan H. Horner dans son livre *Dental Education Today*.

La première école dentaire affiliée à une université, la Harvard Dental School, en 1868, attendit vingt ans avant que les directeurs osèrent exiger un examen aux étudiants en chirurgie dentaire sur la langue anglaise et les éléments de la physique. Le candidat possesseur d'un certificat de lettres, de sciences, de médecine d'un collège reconnu fut accepté sans examen. Cet examen, plutôt sommaire, comprenait une composition convenable de deux cents mots et une connaissance succincte des éléments de la physique.

Plus tard, en 1875, le Dental College of University of Michigan obtint des élèves de la faculté de chirurgie dentaire l'équivalent des examens d'admission de la médecine. En 1881, la Harvard Dental School, en plus de l'anglais et de la physique, exigea le latin, le français, l'allemand, l'algèbre élémentaire et la géométrie plane.

La profession dentaire du Québec ayant eu ses statuts, en 1869, un an après les dentistes ontariens, choisit ses gouverneurs qui, dès le début, exigèrent des étudiants, tant français qu'anglais, une connaissance suffisante de l'orthographe, de la grammaire, de l'anglais, du français, de la littérature, de l'histoire, de la géographie et de l'arithmétique; les années suivantes, ils ajoutèrent le latin et la philosophie, puis une augmentation de la culture classique: l'algèbre, la géométrie, la chimie et la physique, la botanique. En 1921, après avoir élevé au rang de faculté l'école de chirurgie dentaire, l'Université de Montréal informa le Collège des Chirurgiens-Dentistes de la province de Québec, qu'à l'avenir, les conditions d'obtention d'un brevet seront égales pour l'admission à l'étude des différentes pro-

(1) L'un des gouverneurs du Canada, Lord Dufferin, en janvier 1873, visita presque toutes les maisons d'éducation de Montréal. A l'Université McGill, le chancelier préconisait l'abandon du système des cours classiques pour l'étude des sciences appliquées, précédée d'un cours d'instruction portant sur les matières d'enseignement indispensables à tout homme.

Le gouverneur, en réponse, donna franchement son opinion: "... Car si, dans le Canada, la prospérité dépend entièrement de chacun de ses habitants, qui se doivent de contribuer au développement des ressources, il est nécessaire d'autre part, puisque toute la population se doit à l'accroissement de ses richesses communes, que la vie intellectuelle de la société soit cultivée, ennoblie et raffinée par la sagesse, l'esprit, la science, l'expérience et la philosophie des siècles classiques..."

fessions: en 1926, la rhétorique terminée, on conféra un brevet sans examen; en 1926, le P.-C.-N. remplaça une année de philosophie; en 1927, le cours complet donna le même privilège; en 1933, l'année prédentaire fut abolie et le parchemin de bachelier "ès arts" passa à l'honneur.

En résumé, on se rend compte que l'admission à l'étude de la chirurgie dentaire dans le Québec, malgré les deux langues officielles, a été égale, sinon supérieure,

à la préparation primaire et classique exigée pour suivre les cours des écoles dentaires américaines.

Certains gens crient que l'enseignement secondaire ne correspond pas aux programmes des universités, mais il faut se rappeler que chaque faculté a des soins différents dont il faudrait tenir compte.

2043 rue Saint-Denis
Montréal.

Nouvelles des Sociétés

Société Dentaire de Montréal **Tournoi de golf annuel**

Jeudi le 13 septembre dernier, au charmant Club de St. Jean avait lieu le tournoi de Golf annuel organisé par la Société Dentaire de Montréal.

Par une température idéale, une centaine de confrères et invités étaient accourus prendre leurs ébats au grand air. Tout l'après-midi, nous avons pu voir la fougue des uns dans des moulinsets formidables, admirer l'adresse de quelques uns et ressentir la bonne humeur de tous. De plus l'élégance des dames venait ajouter une note charmante au spectacle.

A la fin de cette journée passée sous un soleil resplendissant, plusieurs autres confrères et de nombreuses épouses de joueurs se sont unis au groupe pour un excellent buffet.

L'Exécutif de la Société dentaire s'était occupé de préparer cette fête et de recueillir les nombreux prix. Le docteur Charles-A. Durand recevait les convives et le docteur Pierre Chalifoux s'occupait de la direction du tournoi et de la distribution des prix.

La fête était sous la présidence conjointe de nos sympathiques patrons les docteurs Ephrem Vinet, président du Collège des Chirurgiens dentistes de la province de Québec et Ernest Charron, doyen de la faculté de Chirurgie Dentaire de l'Université de Montréal.

Parmi les autres personnalités pré-

sentes, on remarquait le docteur D. P. Mowry, doyen de la faculté de chirurgie dentaire à l'Université McGill et madame Mowry, le docteur C. R. Seller, président du Montreal Dental Club et madame Seller, le docteur J. W. Abraham directeur des Services dentaires du D.V.A. à Montréal et madame Abraham, le docteur Marcus Star, président de la Mount Royal Dental Society, le docteur W. J. Johnston, représentant de l'American Academy of Dental Medicine, les docteurs W. S. Phelps et George Zimmerman respectivement président et secrétaire de la Montreal Society of Endodontia, le docteur Louis Lepine secrétaire de la Société d'Orthodontie de Montréal et madame Lepine.

Après le souper, on procéda à la distribution de plus de 125 prix de golf et de présence.

Le docteur Rémy Décarie était déclaré champion pour 1951 avec un score brut de 80, et réussissait ainsi, après une lutte acharnée, à remporter le trophée du Dépôt Dentaire Limitée, détenu auparavant par le docteur S. E. Chalifoux. Il était suivi de près par les docteurs A. Boisvert avec 81, Pierre Chalifoux, Paul Manseau etc.

Le docteur Femand Tétreault remportait le trophée Lafond-L'Abbé pour le meilleur score net.

Dans la classe B. le docteur Antoine Raymond décrochait la coupe Eudore Dubeau.

Le trophée Goupil, emblème de championnat des dames fut gagné par madame S. E. Chalifoux.

La soirée se termina par quelques danses pour les uns ou par un bout de jasette pour d'autres, sous un brillant clair de lune sur la terrasse du Club.

Réunion de septembre 1951

L'assemblée régulière de septembre de la Société a eu lieu à l'Hôtel Windsor, mardi le 18.

Le conférencier invité était le Brigadier Guy Gauvreau, coordonnateur de la défense civile pour la région métropolitaine de Montréal.

En présentant le Brigadier Gauvreau, le docteur Charles-A. Durand, président de la Société, traça un bref mais un émouvant aperçu de sa brillante carrière militaire. Il énuméra aussi les qualités qui valurent au Brigadier Gauvreau la confiance des autorités municipales, lesquelles le chargèrent de fonctions importantes et de la responsabilité d'organiser la protection de la population civile advenant un état d'urgence. Le docteur Durand réitéra l'offre de la Société dentaire de coopérer à la défense civile dans le but de sauver la vie des nôtres si jamais elle était menacée.

Le brigadier Gauvreau commença son entretien en disant qu'il comptait avant tout sur la coopération de tous ceux dont la fonction est de veiller à la santé de la population: médecins, dentistes, anesthésistes, gardes-malades etc.

La Défense Civile doit commencer prochainement le recrutement d'un grand nombre de volontaires.

L'objectif est de 60,000 personnes, hommes et femmes dont une grande partie sera attachée à la Section de Santé. Un poste de premiers soins devra compter 82 personnes: 4 médecins, 3 dentistes, 6 gardes-malades, 60 secouristes et aides médicaux, 3 estaffettes et 6 commis. Si possible, on adjoindra à ce personnel une cinquantaine d'auxiliaires. Si l'on ne tient pas compte de ces auxiliaires, mais seulement des 82 personnes prévues à l'effectif de chacun des postes de premiers soins, et si l'on considère qu'il faut au minimum 100 postes, cela fait immédiatement 8,200 personnes. Or, le nombre des postes de premiers soins peut atteindre 300, et la section de la Santé aura besoin de volontaires pour d'autres services que ceux des premiers soins. Ceci explique donc pourquoi l'on aura besoin de 60,000 personnes si l'on veut une protection effective.

Dans les soins d'urgence apportés aux sinistrés, advenant un raid atomique sur la région métropolitaine, les dentistes seraient appelés à remplir des tâches importantes, notamment dans les postes de premiers soins, où nombre de travaux de chirurgie buccale et faciale seraient exécutés d'urgence.

Le conférencier fut remercié par le docteur Hervé Deschênes représentant le doyen de la faculté de Chirurgie dentaire. Il invita le brigadier Gauvreau à venir rencontrer les professeurs et les élèves de la faculté.

Le docteur Ephrem Vinet, président du Collège, s'était aussi, rendu à cette réunion.

La séance se termina par une série de questions et de réponses ainsi qu'un film approprié à la défense civile.



Revue de la Press Etrangère

Une enquête auprès des dentistes des Etats-Unis.

Un questionnaire a été adressé par l'American Dental Association à quelque 20.000 de ses membres. Voici quelques-unes des réponses:

Neuf dentistes sur dix ont un appareil de radio.

27,4% font toujours une radiographie complète de la bouche avant tout traitement; 48,4% en font "souvent".

Au point de vue honoraires, un cinquième des praticiens travaillent toujours au comptant.

Environ les deux tiers occupent du personnel auxiliaire.

Le nombre total du personnel dentaire employé comme fonctionnaires aux Etats-Unis peut être estimé comme suit: 1.900 dentistes; 3.600 hygiénistes; 3.300 techniciens et 55.200 assistants. Leur salaire mensuel s'établit ainsi: dentiste, 513 dollars; hygiénistes, 236; techniciens, 264; assistants, 149.

Les dentistes n'ayant pas d'assistant, d'hygiéniste ou de technicien, reçoivent en moyenne 37,8 patients; ceux employant un de ces auxiliaires en reçoivent 51,7, ceux qui en emploient deux 63,8.

Le nombre de patients ayant consulté les dentistes en 1949 s'élèverait à 60 millions, soit 40% de la population totale.

Le nombre des différents services dentaires fournis à la population des Etats-Unis, au cours de la semaine du 16 au 22 avril 1950, pourrait être évalué comme suit: examens: 640.000; radiographies: 1.600.000; traitements prophylactiques (détartages): 610.000; extraction: 1.040.000; obturations et inlays: 2.870.000; couronnes: 50.000; bridges fixes: 40.000; prothèses complètes: 100.000; prothèses partielles: 60.000; traitements de paradentose: 110.000; traitements orthodontiques: 15.000; applications de fluor: 50.000. (*Jour. Amer. Dent. Assoc.*, avril 1951, p. 444).

Injection combinée de solution anesthésique et pénicilline.

E. BLUMENTHAL ET A. CATANIA

L'injection d'un mélange de solution anesthésique et de pénicilline semble apporter la solution de problème tant de fois discuté des extractions à chaud. Les auteurs rapportent leur expérience portant déjà sur des milliers de cas. Leurs premiers essais avaient été faits avec la procaine. Les résultats ne furent pas satisfaisants en raison de la formation d'un précipité flocculent détruisant les propriétés anesthésiques du produit. Par contre, la monocaïne forme, avec la pénicilline une solution claire et les avantages obtenus sont très importants. L'injection est complètement indolore, l'anesthésie se produit très rapidement et supprime les douleurs postopératoires. Les effets anti-infectieux de la pénicilline en injection *loco dolenti* sont infiniment supérieurs à ceux de l'administration par voie parentérale. L'injection doit être faite en dehors de la région infectée, l'aiguille étant dirigée vers le centre de cette région. Plusieurs piqûres sont faites de manière à circonscrire la région malade à une petite distance. De nombreuses interventions de chirurgie buccale, telles que: extractions de dents incluses, kystes, tumeurs bénignes, curetages de sinus, etc., ont été pratiquées avec plein succès. (*N.-Y. St. Dent. Journ.* mai 1951, pp. 190-201).





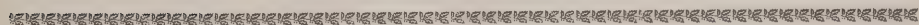
By courtesy of the Editor of the "Beaver"

**A lookout watches for signs of a break in the ice
during a hunting trip in the far North.**

—Taken from Learmonth's story in the
September, 1951, "Beaver."

Happy, happy Christmas, that can win us back to the delusions of our childish days, that can recall to the old man the pleasures of his youth, and transport the sailor and the traveller, thousands of miles away, back to his own fireside and his quiet home!

CHARLES DICKENS





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Some Aspects of Efficiency in Dental Practice

by JOHN W. CLAY, I.D.S., D.D.S., F.I.C.D., I.I.D., Calgary, Alberta

THE practice of dentistry is based on a wide range of skills and knowledge.

A high degree of manual dexterity, slowly acquired, is essential. Then the great variety of operative prosthetic and surgical procedures, of which adequate knowledge has been gained, can be carried through, so that pleasure, satisfaction and profit may be the result. The pleasure comes from a job well done: the satisfaction comes from a knowledge which is shared by the patient, that a real service has been rendered: and a reasonable necessary profit has been obtained for that service.

This in brief is the background for the practice of dentistry. But more is required to build a large and successful practice.

It is not my purpose to discuss the various types of knowledge required as a basis for the successful practice of our profession. Efficiency requires, in addition to the purely dental background, a degree of knowledge of business principles, bookkeeping, psychology and office management. It demands honesty, personal and office cleanliness, recreation, reasonable living, and a number of interests in leisure time for entertainment and for one's own growth and development.

There is sometimes the mistaken notion that graduation means a completed education. Nothing is further from the truth. Unfortunately, due to the pressure of time and economics

and the vast amount of technical knowledge required, a course in dentistry is not education in its true sense. To a great extent it is merely a basic training, on which may be built by experience, study and observation, a superstructure of efficient dental practice and a satisfying way of life.

ARRANGEMENT OF THE OFFICE

There is not space to cover the whole field of efficiency in practice. It may, however, be worth while to consider the arrangement of a dental office and its contents and the principles of office management.

In planning for production in a manufacturing plant much thought is given to arrangement so that each man hour will be used to the best advantage. The result of a change which eliminates waste effort may be the difference between profit and loss. Too often no thought is given to this matter in setting up and operating a dental office, with the result that often for many years of practice there is a steady loss of time and energy-time and energy which should be producing useful work and a greater income.

An important fact to consider in laying out a dental office is that all waste physical effort in operating cuts down the income from the day's work by the percentage of that unnecessary physical effort. In its simplest terms the practice of dentistry consists of some thousands of muscular contractions per day for which the dentist

receives a certain number of dollars. If, by careful planning, he can switch six or eight percent of those contractions from lost motion to productive effort, there is an important gain in volume of work accomplished with no more expenditure of physical and mental energy.

With this as a basic principle and the available space selected, one is able to test the various plans before him and choose the one which can be operated with the least waste motion. To some extent concessions may be necessary for appearance and because of the general space shape, but the following arrangement should be striven for. It should be kept in mind that the dentist moves from the nurse's desk to two operating rooms, and the laboratory and rarely needs to go beyond this area. The problem of distance does not exist in a small, one-chair office but in the larger set up the ideal is an office desk as a centre with the place of work in each of the three mentioned rooms not more than ten feet from this centre, and all the rooms close together. For reasons of privacy and convenience the two operating rooms are best separated. This arrangement has the added advantage of allowing the occasional conversation with the nurse or secretary at the desk without interfering with her work or that of the operator. Elimination of waste effort on her part increases her efficiency and the daily production of the office.

Care should be taken in placing office equipment and furniture so as to reduce useless motion to a minimum. A few suggestions follow:

(1) Charts, records and bookkeeping equipment should be easy of access, and placed so that they may be reached by the assistant from her rotating chair at the desk.

(2) If there is sufficient practice, two operating rooms save a large percentage of time, and give patients much better comfort and service.

(3) Wash basins should be located

within a step or two of each dental chair, and should be set several inches higher than usual. Hand controlled taps are contaminated in turning on, and reinfect the hands after washing. Foot or knee control, with hot and cold water from one elevated opening, saves energy and time and prevents the spread of infection.

(4) The instruments grouped together in a dental unit are used very many times each day. For some unknown reason this assembly is usually placed on the left side of the dental chair for right-handed operators. As a result there is a continuous reaching over the patient with perhaps a step forward to do this and again the careful replacing of these instruments at a distance. The writer has found it possible to have the unit adjusted to and used in a somewhat forward position on the right side with a distinct gain in time consumed, and energy expended. The split unit with only the cuspidor on the left side of the chair is a much more efficient and convenient arrangement.

There is the added advantage of a clear space on the left side for the entrance of the patient, and for the chair assistance of the dental nurse.

(5) The arrangement of instruments in the cabinet should also be carefully considered. Those which are used the most should be placed where they may be reached with the least effort, leaving the ones which are seldom required in the less accessible locations.

(6) Sufficient extra instruments of the types frequently used should be in the cabinet, so that the delay of waiting for the return from the sterilizer may be avoided.

(7) A generous duplication of mounted stones, stones on mandrels and other small items always on hand prevents delay and annoyance.

(8) When two operating rooms are used the foot control of the dental engine should be operated by the right foot in one room, and by the left in the other. This arrangement is an

important factor in reducing fatigue and strain.

(9) It might not be out of place to make a suggestion for dealing with the restless, loquacious, or frequently spitting and mouth washing patient.

Placing of the rubber dam is a great time saver. Where this is not used, the saliva ejector and instruction that the mouth must be kept open, allow work to proceed more rapidly. It is also useful with some patients in the simple but time-consuming operation of scaling and polishing the teeth.

These and many other small items of arrangement and procedure are not always planned to the best advantage. Each in itself does not eliminate much lost motion, but the sum total of a few time-conserving changes will yield a definite and desirable daily dividend.

THE DENTAL NURSE

One need not discuss the value of the nurse in the dental office. Even before there is full use for her time there is a practice-building value, and a need for assistance in various chair procedures which make her invaluable. As the volume of work becomes larger there is a large share which she can do as efficiently and rapidly as her employer.

Continued growth of a practice is limited by the fact that all production centres in one brain and one pair of hands. Any portion which can be done by assistants increases to a like extent the amount accomplished.

There comes a time when consideration should be given to the employment of an additional nurse. In these days of high salaries and high laboratory and supply costs, with a generous portion of the residue subtracted for income tax, careful figuring is required to estimate the amount of increased net income which will result.

If there is a surplus of patients available an estimate of an increase of perhaps thirty percent in volume should be taken. From this should be subtracted the total extra production costs and one nurse's salary. The top

income tax for the individual with this larger cash return being then deducted, a fair estimate of the larger net income is arrived at. It will be found that there is a reasonable addition to net returns with no longer working hours, though the amount of the increase will vary with the efficiency of management. So much for the financial aspect.

There is much to be said, however, for the improvement of service to patients and the satisfaction which derives from an adequate amount of assistance.

For many years the writer has employed two dental nurses and there is at most times sufficient work to keep them usefully busy throughout the day. A short list of the advantages of additional help may be of interest to those who carry on a busy practice without additional assistance.

Perhaps the first value which should be noted is continuity of service. No matter what the previous training, there is a mass of information about a particular practice which can only be acquired through some months of employment. Due to hazards of matrimony and other causes, there is at intervals the difficulty of the new dental nurse, trained or untrained, and her lack of background in meeting many problems.

This situation causes a considerable loss of time and efficient assistance to the dentist, and lack of knowledge often makes the dealing with the individual needs of patients unsatisfactory. With one continuing nurse who has all this information, the practice runs smoothly, while the new nurse gradually becomes familiar with all phases of the work.

Not less valuable is the continued assistance which is available at all times. The absence of help at the noon hour, during illnesses, and holidays, and the frequent necessary conversations on the telephone or with patients in the office, takes a toll of time, efficiency and patience.

A second dental nurse will be kept very busy with many activities transferred from her employer, and more adequate and sympathetic attention can be given to patients. A better service is provided with more satisfaction to the dentist, and there is a reasonable additional financial return.

Because of the fact that all produc-

tion comes through the dentist's own physical efforts, he should arrange his office so that the most work may be accomplished with the least amount of time loss and physical effort on his part. Wherever possible, time- and energy-consuming activities should be transferred to technicians and dental nurses.

The Canadian Dental Association Meeting in Ottawa

by T. R. MARSHALL, D.D.S., F.A.C.D., Toronto, Ontario

THE National Convention in the National Capital was the catch phrase publicizing Canada's most important dental meeting of the year. It began with the Board of Governors' Meeting on September 19 and concluded with its scientific program one week and one day later. The Eastern Ontario Dental Association, the oldest dental society in Canada, celebrated its seventy-fifth annual convention as host for the occasion. The traditions of this fine old society were upheld and manifest throughout in the splendid arrangements and the friendly cordial atmosphere apparent everywhere. There were 437 dentists in attendance, which number was supplemented by nearly as many more ladies, dental nurses, assistants and exhibitors; all received the same warm welcome to the Capital City of Canada.

BOARD OF GOVERNORS' MEETING

The importance of matters coming before the National Association can best be appreciated by attending the Board of Governors' meeting. Twenty-six committees that had been working on their respective projects all year brought in reports and recommendations for endorsement of the Board in session. A review of these reports indicates the magnitude of business enterprise conducted on behalf of the profession across Canada. The work of all standing committees is important but naturally the achievements of some attract

more interest than others. The most attention at this meeting seemed to centre around committee work on Housing, Dental Education, Research, Dental Public Health, Health Insurance Studies, Public Relations and a New Pension Trust Scheme for members of the Association.

In February a new national headquarters, home of the Association was established at 234 St. George St., Toronto. This is the administrative centre where the secretary and his staff are located; it was made possible by voluntary contribution of funds by the legal dental bodies of all ten provinces of Canada. It was reported that a new service feature will soon be available to the profession in the form of a National Dental Library. Many contributions have already been made and, of course, others are acceptable.

The council on Dental Education reported through its Chairman, Dean Scott Hamilton, that its most important project of the year was the survey of all five dental faculties in Canadian Universities. This work has been completed and a confidential report submitted to each dean concerning his own faculty. The council recommended more facilities for educating an increased number of dental students and also that courses for training dental hygienists be provided; the Toronto faculty has instituted such a course this year. It was further reported by the secretary that considerable

progress had been made toward establishing a National Dental Examining Board which would keep to parity dental education qualifications across Canada.

The Research Committee report which was presented by its chairman Dr. W. G. McIntosh was very comprehensive and informative as to the fine work being done. Twenty-seven projects were undertaken in Canada during the past year and the Canadian Dental Association has assisted in financing post graduate courses in United States Universities for twelve young Canadian dentists; all have returned to teaching positions in Canadian dental schools. In a discussion concerning the need for increased funds for research, the Board of Governors were quite sympathetic but it was the consensus of opinion that the Association's duty was towards training personnel to do research and that funds for actual projects should be solicited from other sources. Dr. McIntosh brought his report into sharp focus in his concluding paragraph,—“Today more than ever before the need for dental research and preventive dentistry is demonstrated by the increasing demands for dental services. Repairing the ravages of dental diseases is too large a task for dentists of Canada today. New knowledge from research appears to be the only solution to this tremendous problem in public health.”

There were promising signs of increased activity in dental public health evidenced in Dr. Swales' report. Progress had been made in setting up Dental Public Health organizations across the Dominion, with meetings of Western representatives and the Chairman at Winnipeg and again with Eastern delegates at Ottawa. A dental section has been formed in the Canadian Public Health Association and the inaugural meeting was held in Montreal last June. Hope was expressed that the formation of the new society of Dentistry for Children with dominion-wide membership would stimulate

dental public health activity. The first meeting of this society was held last May in Toronto with an attendance of 250.

The Health Insurance Studies Committee through its Chairman Dr. H. W. Reid, came up with a new pamphlet entitled, “Statement of Dental Health Policy,” also the subject matter for another booklet entitled, “Prevention in a Dental Health Program,” was submitted. During the year a comprehensive study of the New Zealand Dental Health Service Scheme was made and reported. Further progress too was made in study of prepayment plans for dental service. There was a suggestion offered that the operation of one or more pilot plans as a research project might assist in providing further information on prepayment plans. This would help to determine the feasibility of a general health insurance scheme.

In the department of public relations, vigour, efficiency and systematic organization were evident throughout the year and especially apparent during the meeting. Professional activities have never enjoyed better presentation before the public eye than during the past year; to Dr. Fisk and his committee goes much of the credit. Plans are already well under way to feature the Association's Golden Jubilee Meeting in June next year at Vancouver.

Of especial interest to dentists was the proposed professional pension assurance plan submitted. Its benefits of combined sickness and accident, life insurance, family income and pension plan all in one contract invites careful consideration. Any dentist who is a member of the Canadian Dental Association may purchase a policy in amounts to fit his own needs and no one is required to subscribe in order that others may obtain contracts. All contracts are non-cancellable except by the individual himself. Complete details will be available soon, perhaps before the end of this year.

There were many more interesting matters before the Board of Governors

for consideration but sufficient has been mentioned to indicate some of the more important undertakings.

SCIENTIFIC PROGRAM

The scientific program of the convention and the names of those contributing have appeared in convention publicity. Splendid presentations were given in the field of preventive dental care, diagnosis, case planning in surgery and restorative dental service through the medium of lectures and demonstrations. The "George Wellington Grieve Memorial Lecture," the first to be given, was presented by Dr. Gerald Franklin of Montreal and was a feature of the meeting. The title of the lecture was "Prevention and Interception of Malocclusion;" similar lectures will be presented each year in memory of, and respect for a much loved colleague, the late Dr. George W. Grieve. Among our American guests was Dr. LeRoy Ennis, President-elect of the American Dental Association. He came primarily to bring greetings from our sister society but while at the meeting presented an excellent lecture entitled, "Diagnosis and X-Ray Interpretation."

There were other important events which helped make the meeting an occasion to remember. Dr. Sydney W. Bradley, F.A.C.D. was elected to honorary membership in the Association. This was a much deserved tribute to a foremost citizen of Ottawa and a highly respected colleague of distinction who has given of his talents to professional advancement without reserve.

The Honorable Paul Martin, Minister of Health and Welfare attended a luncheon to bring greetings of the Prime Minister and the government and to express his personal pleasure and appreciation of the splendid co-operation his department has received from dentists of Canada.

Mr. Gordon Graydon M.P. for Peel, and Vice-Chairman of the Parliamentary Standing Committee on External Affairs, was a guest speaker. He gave

an address that will be remembered for its sparkle, eloquence, stimulating and thought-provoking message: its humour, humaneness and understanding, and last but not least its warning of difficult problems that must be faced in world affairs. Mr. Graydon's subject was "Nato."

PLEASURE AND RELAXATION

Then aside from the more serious aspects of the meeting provision was made for pleasure and relaxation. A delightful surprise awaited those who luckily stumbled on a certain little obscure room—it was an art exhibit. The work of fellow dentists or their ladies. There were oil paintings, some in water colour, some tinted photographs some kodochrome enlargements and so forth, all setting forth unsuspected talent, and what a delightful way to spend leisure time.

On the social side there was a fellowship dinner, and the president's dance. And, of course, the ladies had a program too; this was a feature of especial interest to visitors to the Capital city. The Ottawa ladies, accomplished in the art of entertaining, left nothing to be desired. They had plans for a banquet, addressed by Her Worship Mayor Charlotte Whitton, private parties and scenic drives brought to a climax by a delightful luncheon at the Seignior Club. It appeared that everyone had a busy time and enjoyed it.

Such was the Annual Meeting of the Canadian Dental Association at Ottawa. It was the culmination of planning and effort of a grand group of fellow dentists in Ottawa and community under the chairmanship of Dr. W. H. Pritchard together with the co-operation of our National Executive. Not many years ago there was little interest in our National organization, not much unity of thought or purpose, and very little recognition. In the past 15 years much has been accomplished in bringing our provincial professions together with common objectives and a united purpose. All this has been brought about by wise leadership.

In the past year, president Dr. R. P. Lowery with the Association's quiet efficient and capable secretary, Dr. Don Gullett, and the executive committee have contributed greatly to this progress. In his presidential address Dr. Lowery set forth three cardinal principles which are forever thought-provoking and indicative of the calibre of leadership given—"First, dentistry is a health profession. We as dentists are charged with the duty of safeguarding the dental health of the people. Second, our National Association

must base its strength on the ideal of service and sacrifice of its members. Third and perhaps most important of all, every dentist must cherish and keep inviolate the ideal of a good citizen." Such utterances are conducive to larger horizons of perspective; they should make men stop and think. Thinking men have made Canadian dentistry a respected member of the health professions.

The National Meeting in the National Capital stands out as a milestone of progress in Canadian dentistry.

Pressure Splints in Skin Grafts

by Dr. JOSEPH FREEMAN, Winnipeg, Manitoba

SEVERE burns of the face present unusual problems in skin grafting. The restoration to normal of parts severely burned is a difficult task and taxes the ingenuity of the surgeon.

Two cases presented themselves in which the whole face of each individual had been severely burned and skin grafting had been done as a necessary measure to cover the raw surfaces. The problems as they presented themselves in each of those instances were the restoration of the vermilion borders of the lips, the removal of keloids that had formed, and the restoration of the proper contour of the alae of the nose.

CASE I

In this case our problem was to restore the normal contour of the vermilion border of the lower lip, and area over which skin grafting had been done previously as a necessary measure immediately after the accident. The formation of scar tissue not only destroyed the normal contour of the chin but also the vermilion border of the lower lip. The keloid would have to be excised and a skin graft placed over the wound with an even pressure exerted during the period of

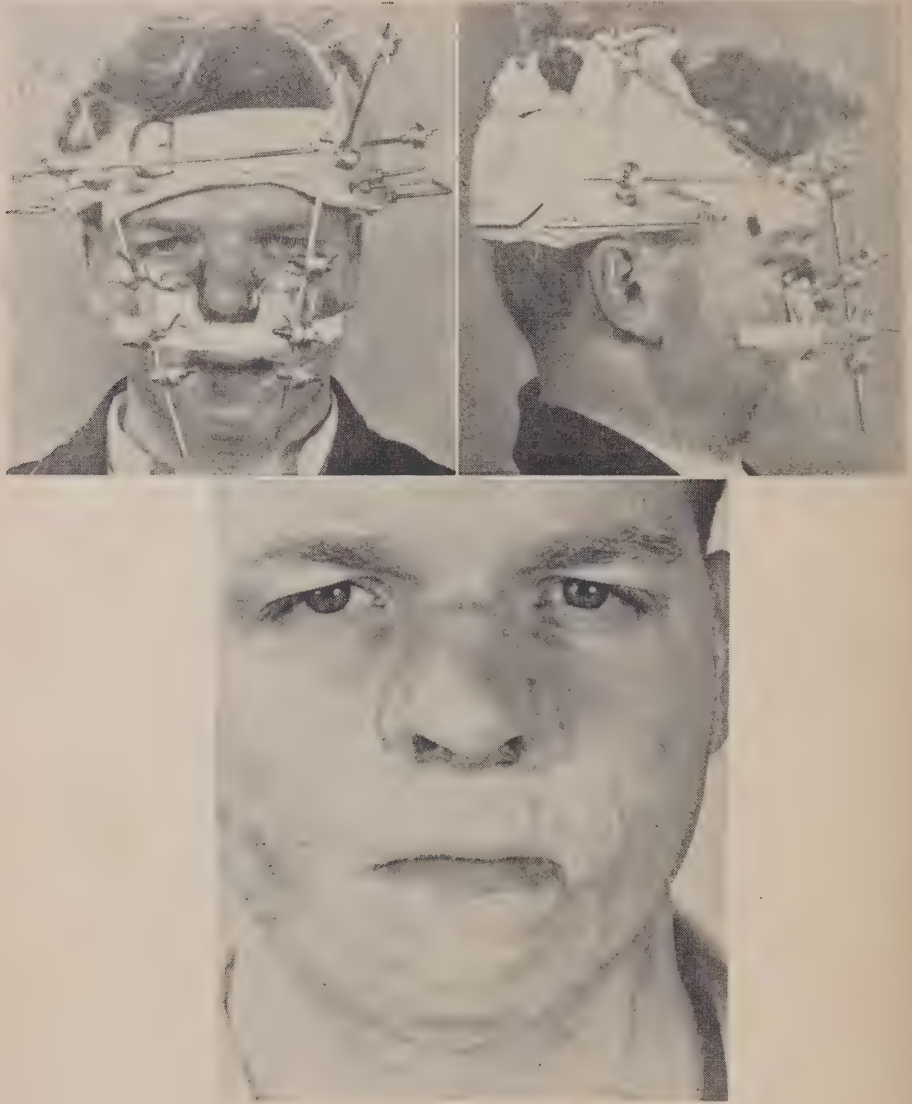
take. To accomplish this a splint had to be devised so that the lower lip would be held up or stretched and a continual pressure exerted so that there would be an even take throughout the whole skin graft, and the pressure still would not interfere with the blood supply.

The lips of this patient were so tied down by scar tissue that it was impossible to get into his mouth to take an impression of his lower teeth. This, therefore, had to be done in small sections and assembled.

A base of clear acrylic was made with two slots to receive two guide pins and two nuts were embedded next to the slots to receive the bolts holding the inner pressure plate down in place.

The inner pressure plate, made of clear acrylic, extended from the mucobuccal fold to a height of approximately $\frac{3}{4}$ " above the incisal edge of the lower anteriors and also contained two extra-oral arms for attachment of the outer pressure plate. The inner pressure plate had to be made in two sections, each section containing an extra-oral arm for ease in insertion and attachment.

Previous to going into the operating room the base of the splint was placed



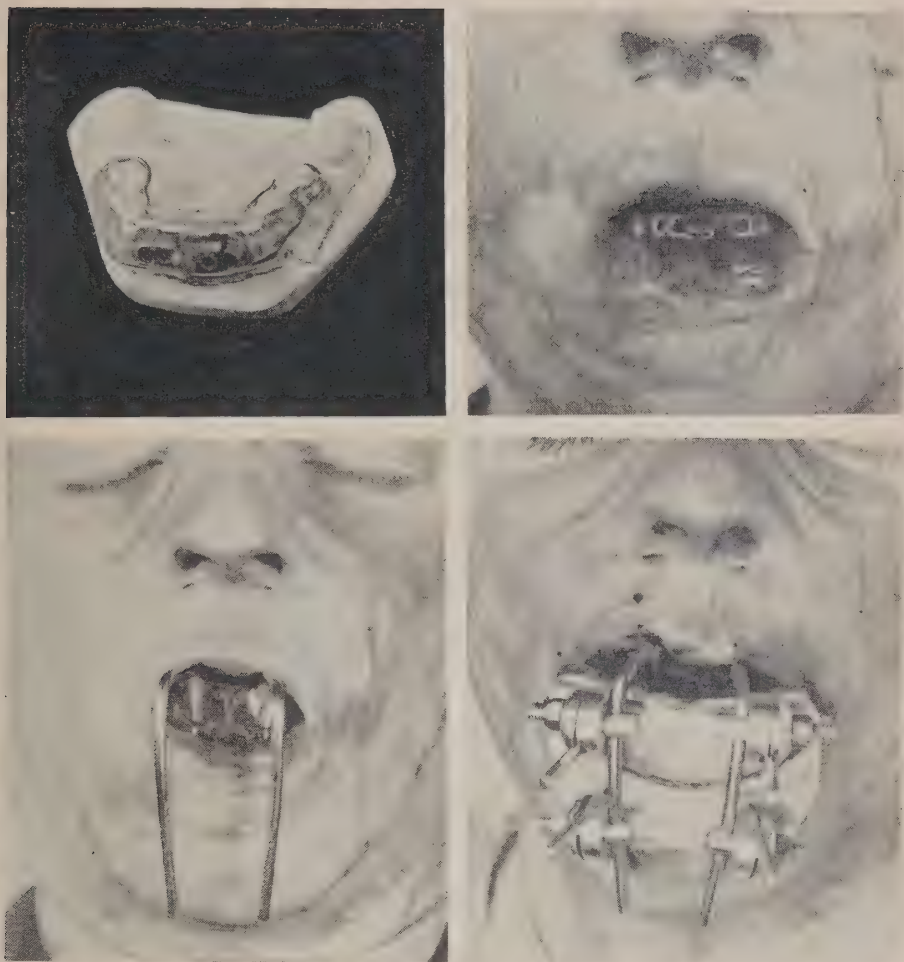
CASE 1.

over the lower teeth and fastened securely into place.

The inner pressure plate was then bolted into place on to the base, and the two sections wired together for more stability.

The keloid was then excised and a line incision made to restore normal contour of the vermillion border. The lip was then tied to the upper surface

of the extra-oral arms by fine stainless steel sutures. A dermatone skin graft from the abdomen was placed in position. The extension of the lip and the removal of the keloid necessitated approximately twice as much graft in area to the original area of the excision. The skin graft was then sutured to place with fine deknatel. A fine dressing saturated with hygeol



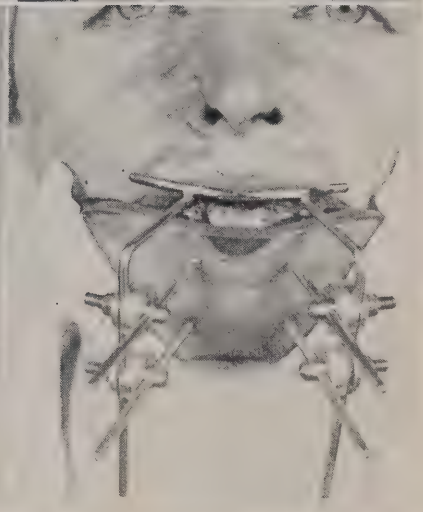
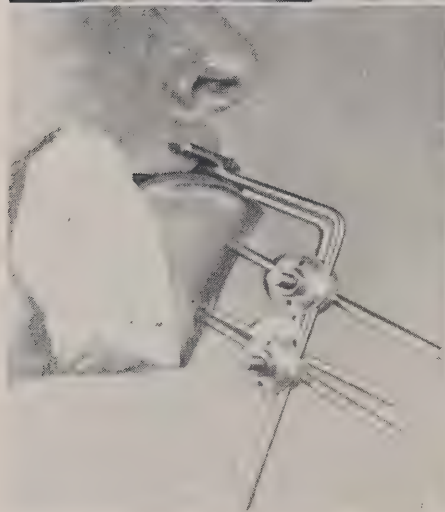
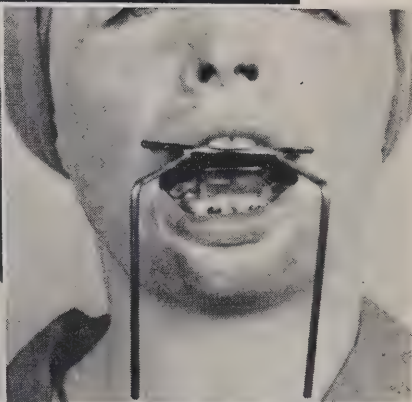
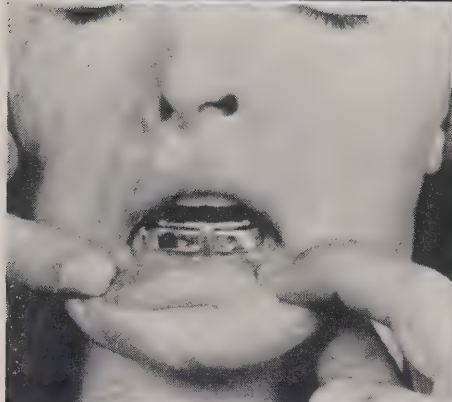
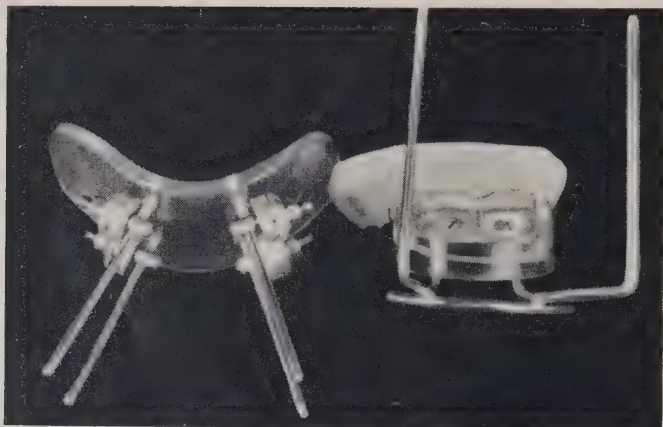
CASE 1.

was placed over the skin graft and the outer pressure plate placed in position. This was held to give a continual even pressure over the whole skin graft and fastened securely to the extra-oral arms by means of the universal joints. The appliance was kept in position for a little over two weeks. On removal it was found that the skin graft had taken with a very minimum amount of scarring and a very good contour of the vermillion border of the lower lip was obtained.

The second problem with this patient was the restoration to as near

as possible of the contour of the alae of the nose. Previous skin grafting as a necessary measure had obliterated the lateral contour of the alae. The problem now was to construct an appliance that would not only exert a lateral pressure against the alae of the nose and not come up on the nose but also exert a pressure against the tissues at right angles to the pressure exerted laterally against the nose.

An impression was taken of the anterior teeth only, since it was impossible to secure an impression of the whole upper arch. A cast cap splint



CASE 2.

was then made to cover the six anteriors. To this cast cap splint were braized two extra-oral arms bent in such a manner as to avoid the upper lip. All rods used were of $\frac{1}{8}$ " diameter inconel to enable us to use the modified universal joint in assembling our complete appliance. This cast cap splint was cemented to the teeth.

The pressure plates of clear plastic were then constructed and contoured to give the contour to the alae which we desired and to overcorrect it slightly. Each pressure plate contained two projecting arms.

Since the teeth could not be used alone as an anchor point because absolute stability was required, it was also necessary to use a universal head appliance. To the frontal arm of the head cap two vertical arms were attached which extended down and were firmly secured to the extra-oral arms of the cast cap splints by means of universal joints. The pressure plates were to be attached to the vertical arms.

Curved incisions were then made at the base of the alae and the alae released. These were pulled downward and inward by means of stainless steel sutures. The dermatone skin grafts were placed over the wounds and sutured to place. Fine gauze hygeol dressings were then placed over the skin graft and the pressure plates fastened to place exerting the proper pressure. This appliance was also kept in place over a period of two weeks with no discomfort to the patient. On removal it was found that a satisfactory result had been obtained.

CASE II

The second case was another problem of removing a keloid, restoring normal contour to the chin and vermilion border of the lower lip.

Since the splint in Case I had proven very satisfactory it was decided to use the same principles. This time, however, we were able to secure a good impression of the whole lower arch and a cast cap splint was constructed covering the bicuspid and molars on each side with two arms extending over the labial surface of the anterior teeth. These labial arms were drilled and tapped to receive the bolts holding the inner pressure plate.

The inner pressure plate was again constructed of clear acrylic, but it was kept in one piece due to the ease of insertion. To the extra-oral arms was braized a cross rod for elevation and holding of the lower lip in a stretched position.

The cast cap splint was cemented to the teeth and the inner pressure plate fastened to place. The same operation as in Case I was performed and the outer pressure again placed over the skin graft with a hygeol gauze dressing. This was again allowed to remain in position for three weeks. A satisfactory result was obtained.

The use of a continual even pressure over skin grafts by means of pressure plates attached to various forms of anchorage has yielded satisfactory results with the formation of a minimum amount of scarring. This has led us to the conclusion that wherever possible continual pressure should be exerted over skin grafts. Many types of appliances can be constructed, each to suit the individual case.

An over-abundance of deer in the Huron District of Ontario during the past year has caused thousands of dollars in damage to autos, farmers' crops and orchards, according to conservation officers of the Ontario Department of Lands and Forests.

The officers have roughly estimated that \$30,000 damage was inflicted on cars alone as the result of collisions with deer on highways in the District which covers ten counties. A total of 150 deer were killed in this manner and the average collision is believed to have cost the motorist \$200 in repair bills.

An Evaluation of the Natural Defences of the Mouth

by V. P. GILBERT, McGill University

Canadian Dental Association War Memorial Scholarship Essay, Second Award.

THE oral cavity and its contained structures however are in intimate relation with the external environment and are subjected to mechanical, chemical and bacterial insults that are rarely if ever experienced by other body cavities which make them unusually vulnerable to disease."¹

A natural compensation for the inherent vulnerability of the oral cavity has been set forth by the co-ordination of the protective properties, and functions, of the tissues forming the adnexia of the mouth with those of specialized intraoral tissues and structures.

Defensive factors concerned may afford protection either directly against disturbances, or indirectly by affecting the establishment and maintenance of the protective properties of other structures, or by interpretable indications which may be utilized to decrease the intensity or duration of the developing oral or systemic disturbances. The direct and indirect protective features of the structures comprising the adnexia of the mouth will be treated. These will include the lips and cheeks, the maxillary, mandibular and palatine bones, the temporomandibular joint, the muscles of mastication, and the soft palate and oro-pharyngeal structures. The intraoral defensive actions will be treated similarly and will include the teeth and tooth tissues, periodontal membrane, epithelial attachment, the tongue, oral mucosa, saliva and oral flora.

These treatments will be followed by an account of the factors which may be capable of overcoming these defence actions by reducing their efficiency or nullifying their effectiveness. These factors may be environmental hazards (physical, chemical, thermal and bacterial); dental dysfunctions (malocclu-

sions, nonocclusion, abnormal and sub-normal masticatory stresses); or systemic dysfunctions (faulty nutrition, debilitating diseases, blood dyscrasias, endocrine disorders)—all three of which are considered aetiological factors in dental disease.^{2, 3} The term "disease" hereby defined as "any alteration of the structure or the composition of the tissues, which impairs or tends to impair their function."⁴

THE DEFENSIVE PROPERTIES OF THE ORAL ADNEXIA

The Lips and Cheeks.

The lips and cheeks form the external boundary of the vestibulum oris thereby affording direct protection to contained tissues as a physical barrier of soft tissue. Indirect protective features are embodied in the effect of these structures on adjacent oral structures and on masticatory function. Complete closure of the lips assists in maintaining the moist condition of the oral mucosa. Incomplete closure on breathing may lead to an unbalance of atmospheric pressure and muscular action resulting in malocclusion.⁵ Masticatory function is enhanced by the lateral pressure of muscles of the lips and cheeks, keeping the food particles on the occlusal surfaces of the teeth. This action assists in providing necessary physiologic stimulus for the maintenance of the periodontium providing it is not excessive as it then may lead to horizontal impaction of food.⁶ Lesions or discolouration of these tissues may act as indirect protective features provided they are diagnosed and remedied sufficiently early to treat systemic or local disturbance to the betterment of general body health, and, if possible, to facilitate restoration of tissue function and structure.

THE MAXILLARY, MANDIBULAR AND PALATINE BONES

Direct protection to the superior aspect of the oral cavity is afforded by the maxilla. This protection is enhanced by the anatomical position of the maxilla below the frontal and sphenoid bones, being buttressed laterally by the zygomatic arches of the molar bones, and superior to the mandible. Its massiveness and density are necessarily reduced by the maxillary antra which function to protect the light bone structure by pneumatizing the masticatory blows.⁷ The body of the mandible protects the floor of the mouth while the rami shield its posterior portion. The strength of the mandible is enhanced by its mobility, its arch form and its varying thicknesses of bone tissue. By entry into the bone tissue, blood vessels and nerves supplying oral structures are protected from physical injury.

Normal developmental growth of all three bones is necessary to maintain the maxillo-mandibular relationship essential for normal occlusion.⁸ The alveolar processes of the maxilla and mandible contain alveoli for reception of the roots of the teeth and thus form a protective covering around them. Characteristic reactions of this bone tissue to functional stresses and tensions are necessary to maintain normal tooth relationships and thus the natural protection rendered by the teeth and tooth tissues.

THE TEMPEROMANDIBULAR JOINT

The temperomandibular joint is a diarthrosis which gives protective and functional mobility to the mandible. The meniscus protects the articulating surfaces of the condyles and the glenoid fossae by reducing friction and cushioning mandibular stresses.⁹ Disturbances affecting temperomandibular articulation can result in impairment of function of the teeth and the muscles of mastication.¹⁰ Thus normal functioning of the temperomandibular joint tends to maintain the protective factors provided by normal occlusion and

masticatory function. In addition bone resorption and apposition in the condyle and temporal bone can adjust for occlusal changes to attain improved masticatory function.^{11, 12}

MUSCLES OF MASTICATION

The muscles of mastication provide the mandibular movements and stresses necessary for trituration of food and, in so doing, provide stimulation to the periodontium. Direct protection of underlying structures is afforded by muscular tissue especially the suprahyoid muscles. The relation of increased muscular tension to increased and altered bone structure in accordance with Wolff's Law illustrates how these muscles are capable of producing and maintaining an efficient and substantial masticatory apparatus. The importance of normal function of the masticatory muscles and the effects on occlusion of abnormal functions are noted by Rogers who stresses "the destructive possibilities inherent in these tissue if for any reason their function becomes diverted from the normal."¹³ It follows that these muscles provide indirect protection to related structures by their normal masticatory activity. Their stimulatory and efficient function is necessary for the maintenance of oral and body health.

THE SOFT PALATE, ORO-PHARYNGEAL ISTHMUS AND RELATED STRUCTURES

The soft palate, the anterior pillar of fauces and contiguous tissues, together with the root of the tongue form the posterior boundary of the oral cavity and by sphincter-like muscular action are capable of excluding it from the naso-pharynx. This closure, resulting in the formation of a temporary posterior wall, is required during mastication, deglutition and phonation. It is of importance during infancy to allow sucking, thus promoting muscular and bone development. Later in life this posterior wall assists in preventing malocclusions by affecting lingual pressure on the anterior maxillary teeth

and maintaining normal atmospheric pressures.

The faucial tonsils, as a source of lymphocytes which occur in saliva, may have a local protective function but this as yet is unknown.¹⁴

DEFENCE ACTIONS OF INTRAORAL STRUCTURES AND TISSUES

The Teeth.

Since the correct form, position and size of the teeth are necessary for normal occlusion, it follows that any factors tending to maintain these physical proportions and positions are protective factors against dental disease or dysfunction. Throughout life, from their time of eruption into occlusion, the teeth are subjected to forces causing their continuous movement essential to maintain them in equilibrium with the dynamic state of alteration and reformation of the alveolar arches.¹⁵ These forces are therefore protective forces and include active eruption, mesial drift, forces due to cuspal contact, masticatory forces, and forces relayed by the periodontal fibres. Correct form and size are prerequisite for correct positioning, as any such irregularities can alter or expand the forces applied. Another prerequisite is that the eruption of deciduous teeth and the exchange to permanent teeth must be co-ordinated with jaw development.¹⁶ Direct protection during mastication of food is afforded by the teeth to the underlying oral mucosa.

Tissues of the Teeth.

The physical hardness of enamel and its reduced brittleness due to the resilient dentine, assisted by the shock-absorbing properties of the periodontal membrane fibres, enhance its ability to protect underlying tissue from injury due to physical irritants. The hardness of enamel is greatest on its occlusal and incisal surfaces and is greater on the external layers than internal layers throughout.¹⁷ Its relatively low thermal conductivity serves to protect the tissue of the pulp chamber from injury by thermal irritants.¹⁸ Investigators dis-

agree as to whether enamel may or may not be permeable to chemicals, but if the permeability exists it is believed that it may decrease with keratinization of rod sheaths in later stages.¹⁹

Enamel is resistant to acid of lower concentration than pH 5, and acid of this concentration must be localized against enamel before calcification can be produced.²⁰ This limited resistance to acid is enhanced by the ability of enamel to absorb fluoride ions into its apatite structure.²¹

The enamel cuticles cover the surface of the enamel—the primary cuticle is a calcified membrane connected with the interprismatic substance while the secondary cuticle is a keratinized thicker outer layer.²² They were assumed by some to give protection against acid and proteolytic enzymes. This protection, however, is lost due to wear and abrasion, and it has been reported that caries can occur under the intact cuticle.²³

The dentinal tissue forms a protective layer over the dental pulp. With decrease in enamel thickness through attrition, or abnormal loss, tissue reactions in the dentine result in the formation of sclerotic dentine on its outer aspect, and is increased in thickness by apposition of secondary and in many cases irregular dentine on its pulpal surface.²⁴ Thus the odontoblastic processes in dentine function to form sclerotic dentine and to transmit stimuli for production of secondary and irregular dentine. The permeability of dentine to chemicals is greatly decreased by these alterations in the outer tissue, either due to fatty degeneration or sclerosis.^{25, 26} The presence of polymorphonuclearcytes and eosinophilic leucocytes have been noted in dentinal tubules during inflammatory stages.²⁷ The dentinal lymph circulation which exists in dentinal tubules, entering by way of the odontoblastic processes, is believed by some investigators to carry calcium salts as buffer substances to afford protection against bacterial acids.²⁸

Since the pulp tissue contains cellular

elements, blood and nerve supply, and dental lymph, its protective functions are similar to those of other vital tissues. The reaction of odontoblasts to irritation of odontoblastic processes is manifested in dentinal formation. The perivascular cells, capable of becoming wandering phagocytes, and the polyblasts, are protective cellular elements against bacterial irritants. Grossman states "the most common cause of pulp injury is bacterial."²⁹ Added defence against these irritants is afforded by the cellular elements of the pulpal blood vessels. The nerves of the pulp react to register heat and cold irritations as pain. If the injury is more intense hyperaemia may result. Both these reactions are considered defensive due to the fact that they constitute a warning mechanism.³⁰

The cementum forms an outer protective layer over the dentine of the whole root surface in the great majority of teeth. This protective layer is physically softer than dentine but it protects the dentine from bacterial, chemical and thermal irritations. This protection is enhanced by the cemental cuticle which is considered to be resistant to physical injury, strong acid and alkaline solutions.³¹ This direct protection of cementum is particularly effective at bifurcations or trifurcations in gingival recession cases. Indirect protection is afforded by cementum in assisting to maintain the teeth in position by attacking the periodontal fibres. Apical deposition of secondary cementum assists in maintaining tooth function in cases of excess abrasion by re-establishing the normal ratio between the clinical crown and root.

PERIODONTAL MEMBRANE

The periodontal membrane attaches the tooth to the alveolar bone and is capable of allowing physiologic movement of teeth without loss of support. It renders direct protection to the blood vessels and nerves contained in it and enhances this protection by maintaining the gingivae in position. It assists in maintaining the equilibrium of the

periodontium with masticatory function in that it stimulates bone and cementum formation to meet added physiologic requirements. It is capable of inflammatory reaction against irritants as evidenced in periapical periodontitis. The formation of a granuloma (due to mild infection after pulp death) is considered a defensive reaction on the part of the periapical tissue. The presence of epithelial rests in the periodontal membrane and their proliferation or stimulation to surround invading irritants as in epithelialized granuloma is also considered to be a protective feature of the periodontal membrane.

EPITHELIAL ATTACHMENT

The epithelial attachment is composed of several layers of epithelial cells the basal layer of which is attached to the connective tissue underlying the gingiva and the outer layer to the enamel or cementum or both. It functions to allow movement of teeth occlusally, apically and horizontally and yet to maintain an enclosing or sealing protective tissue barrier around the tooth. It is believed to be organically attached to the enamel and may become attached to cementum by embedding the tono-fibrils of epithelial cells. Its apical movement is a normal involutionary process and is carried out by cellular proliferation without reducing its protective coverage.

THE TONGUE

The intraoral portion of the tongue is in contact with the teeth at its apex and margins thereby lying protectively over the soft tissues of the floor of the mouth. The lingual pressure on teeth renders indirect protection as it assists in the prevention of malocclusion. The pressure of the tongue on the hard palate and alveolar ridges assists in maintaining and producing their normal form which is essential to avoid dental dysfunction. The tongue participates in masticatory function in keeping food particles on occlusal surfaces. It has also been noted that the tongue has a peristalsis movement during mastication.

tion which tends to direct the bolus anteroposteriorly in the oral cavity.³³ This action assists the saliva in cleaning lingual surfaces of the posterior teeth and also in removing bacteria and food debris from the oral cavity.

THE ORAL MUCOSA

The stratified squamous epithelium of the oral mucosa forms a protective layer over underlying connective tissues. It often forms the only barrier between blood capillaries of the lamina propria and the oral cavity.³⁴ Its protective influence is dependent upon its keratinization, its ability to ingest bacteria, and its removal of bacteria by desquamation of epithelial cells. Results of smears taken by Weinmann show that there is minimal or no keratinization of the cheek epithelium, increased keratinization of epithelium on the superior surface of the tongue and total keratinization of the epithelium of the hard palate and gingiva.³⁵ In the areas of minimal keratinization leucocytes were observed to be present.^{35, 36}

According to the assumption of some investigators, the process of keratinization is dependent upon insufficient nutrition to the outer epithelial layers.³⁷ Orban notes nerve fibres terminating in the epithelium which are stimulated by increased pressure on the tissue.³⁸ It is assumed that increased blood supply and cellular activity would follow such stimulation resulting in increased epithelial thickness. This would decrease nutrition to outer layers thereby increasing their keratinization. Thus the epithelium contains a physiological mechanism adaptable to increased pressure changes. The ability of the epithelium to proliferate over areas of exposed connective tissue as occurring in pocket formation enhances its protective efficiency. Due to its blood and lymph supply and cellular elements the oral mucosa is capable of inflammatory reactions against irritants. Its discolourations, pain, and taste sensations act as a warning mechanism against local and systemic disturbances.

THE SALIVA

Due to its fluidity saliva protects oral structures by its cleansing action and removes irritants or potential irritants from the oral cavity to destruction by gastric juices. The action includes, in many cases, implanted bacteria which are removed before colonization begins.³⁹ The effectiveness of the cleansing function is enhanced by the distribution of the glands and ducts of glands to permit outflow into all areas of the vestibulum oris and oral cavity proper. Protection is given the tissues against thermal irritation due to the heat moderating effect of saliva on ingested substances and tooth structure.

The organic and inorganic constituents of saliva account for its bactericidal, bacteriolytic and chemotactic effects against bacterial irritants. Saliva is considered to be the most important single factor influencing the bacteria of the stomach.⁴⁰ The effects of chemical irritants are decreased by hydration, solution and enzymatic actions of the saliva. The mucinous content of saliva affords direct protection of the oral mucosa by rendering lubrication to coarse food particles. The pH of saliva according to Karshan et al is closely related to caries immunity.⁴¹ An increase in the pH can alter the oral flora to enhance their protection, and also enhance the protective function of the enamel, and will increase the acid-neutralizing power of saliva itself. A further effect of saliva on enamel which may enhance the protective function of the latter is the ionic diffusion which is considered to exist from one to the other.⁴² Favourable balance will prevent loss of enamel elements.

The calcium ion concentration is considered by some investigators to be a factor in preventing enamel solution and calcium values have been shown to be higher in caries-immune than in caries-susceptible individuals.⁴³ However such a relationship was not the conclusion of Becks et al and Bunting who conducted similar investigations.^{44, 45} The magnesium content of

saliva is greater in caries-active individuals and is considered to have an antagonistic reaction on the calcium balance. The phosphorus content of saliva has been shown to be decreased in caries-active individuals.⁴⁶ Krasnow et al contend that there is no relation between salivary phosphorus and dental caries.⁴⁷ The fluorine content of human saliva has been determined to be approximately .1 part per million.⁴⁸ As little work has been done on salivary fluorine its influence in oral disease cannot be determined. Many of the organic substances contained in saliva have been shown to be related to dental caries. These substances are salivary protein, cholesterol, ammonia, ptyalin, phosphatase, catalase, urease and lysozyme. Urease producing bacteria have been found to be more prevalent in saliva of individuals with low incidence of caries and low *Lactobacillus acidophilus* counts.⁴⁹ The importance of ammonium salts as solvents for salivary mucin and penetration of dental plaques has been noted.⁵⁰ The antibacterial action of ammonia nitrogen in restricting growth of *Lactobacillus acidophilus* and supporting the growth of *B. aerogenes* has been demonstrated.⁵¹ The presence of specific anti-bacterial enzymes in saliva as lysozyme and another unnamed filterable substance has been observed.^{52, 53} Lysozyme is believed by some to have a transformation power capable of altering pathogenic microorganisms to non-pathogens such as diphtheroid bacilli and pneumococci.⁵⁴

THE ORAL FLORA

The oral flora and fauna are adjusted to the host and to each other. They are believed to assist the saliva in protection against bacteria not normally found in the mouth.⁵⁵ The most effective flora in this antibiotic function is that which is composed predominantly of aerobic and facultative aerobic microorganisms as are found in the healthy mouth. The protection provided varies therefore with variations

in the flora which changes with advent of teeth, loss of all teeth, implantation and subsequent colonization of invading bacteria dependent upon local and systemic disturbances providing favourable habitat and lowered tissue resistance.⁵⁶ The possibility of protection by bacteriophage either through bacterial parasites or enzymes analogous to lysozyme but autolytic has been investigated but conclusions as yet are indefinite.⁵⁷

FACTORS AFFECTING THE PROTECTIVE FUNCTIONS OF THE ORAL ADNEXIA AND INTRAORAL STRUCTURES

Normal Developmental Growth

Normal developmental growth is necessary for the maximum protective influence of both intraoral and extraoral structures. Abnormalities in growth or development lead to abnormal structure and abnormal function which may affect the protective factors of a structure directly. Indirect interference with protective functions may result through abnormalities developed in a related structure through disruption of normal relationships and co-ordinated function. Aetiologic factors of maldevelopment and disproportionate growth include principally congenital defects, hereditary factors, nutritional deficiencies, and endocrine dysfunctions (especially pituitary, thyroid, parathyroid, gonads and thymus glands). To these may be added the effects of exanthematous diseases (enamel hypoplasia), insufficient augmentation of inherent growth tendencies due to lack of function, somatic diseases and traumatic injuries.⁵⁸ Any of these factors are capable of reducing the efficiency of the natural defences by their direct or indirect effects on protective structures. Statistical information showing the extent of their interference is not available. Reference is made however listing maldevelopment and disproportional growth as predisposing aetiologic factors in dental caries,⁵⁹ periodontal disease,⁶⁰ and dental dysfunction.⁶¹

MAINTENANCE OF NORMAL STRUCTURE AND FUNCTION

Normal structure and function, including both tissue and structural function, are necessary to obtain the highest degree of protection from the defence forces. These normal conditions may be altered directly through disease of the structure itself, or indirectly through systemic dysfunctions affecting its metabolism and resistance, or through disease of a related structure resulting in a disruption of normal functioning equilibrium thereby affecting other tissues involved. The integrity of the protective forces of the oral cavity and contiguous structures will be considered separately.

STRUCTURES OF THE ORAL ADNEXIA

The mandible is more vulnerable to fracture by traumatic injury than the maxilla and both are more susceptible to infection than any other bones in the body due to their close relationship to the teeth and oral cavity. The protection and support afforded by the alveolar processes may be greatly decreased by bone loss due to endocrine, metabolic (diabetes), and nutritional disturbances. Bone loss by disuse and senile atrophy also results in decreased protective function due to subsequent weakening of bone structure.

The protective function of the temporomandibular joint may be affected by factors which are capable of disturbing the joint movements. Such disturbances may result from malocclusion, myofunctional imbalance or deficiency, infections of and traumatic injury to the joint itself. The prevalence of mandibular joint disturbances is stressed by Brussell who observed clinical symptoms in 57% of an unselected group.⁶²

The function of the muscles of mastication may be disrupted by any gross disturbance of occlusion, joint movement, or bone support. The protection afforded by the lips is reduced by oral manifestations of hypovitaminosis, neoplasms, virus diseases and local irritations due to effect on normal closure

and muscular action. The protective influence of soft tissues forming the posterior wall may be reduced by local inflammation resulting from throat and tonsillar infections.

THE INTRAORAL STRUCTURES

Protective forces tending to maintain normal occlusion by maintaining normal position and relationship of teeth may be reduced by changes in tooth form due to dental caries or abnormal wear or by abnormal movement of teeth due to endocrine, metabolic or local irregularities. The maintenance of the integrity of the enamel layer is commonly endangered by decalcification enhanced by pits and fissures and plaque formation. The protective functions of the periodontium may be depreciated by the disruption of the equilibrium of the masticatory apparatus, local irritants, pregnancy, diet, diabetes, nephritis, and hyperthyroidism. To appraise the effects of all irregularities of teeth and the periodontium it need only be stated that dental caries is the most prevalent dental disease while periodontal disease is considered to be the greatest cause of tooth loss.

The oral mucosa is affected by catarrhal and allergic manifestations and metallic irritants. General inflammatory diseases, blood dyscrasias, metabolic disturbances (xanthomatosis and hypovitaminosis), and hormonal irregularities (estrogenic and thyroid) all affect the protective function of the oral mucosa.

The protective function of saliva can be decreased by changes in its composition, viscosity, volume and pH. These may be altered by diet, type of stimulation, disturbances of salivary glands, systemic disease and metabolic disturbances.

Constant changes in the oral flora result from changes in type of diet and resistance changes in the oral mucosa. Extreme changes can reduce the protection of the oral flora against pathogenic organisms.

SUMMARY

The efficacy of the natural defences of intraoral and related extraoral structures has been shown to be a factor dependent upon the state of health of oral and other body tissues. The factors involved in these defensive forces are embodied in a multiplicity of interdependent, co-ordinated bodily functions which tend to amplify and intensify any defect of any one component of the masticatory mechanism. The components of the masticatory apparatus are dependent upon body metabolism and nutrition for their maintenance. Bodily health and normal physiologic function are dependent upon oral health. It is this cyclic relationship of factors concerned that increase the vulnerability of the mouth to disease. The refined carbohydrate diet of modern living is stressed as an important cause of tooth loss by resultant bacterial acid production and lack of function, yet caries-immune individuals exist. It can only be assumed that where dental disease is minimal, all variables affecting natural defences are such that these defences operate with maximum efficiency.

CONCLUSION

- (1) The efficacy and efficiency of all natural defences are dependent upon variables which may be oral, extraoral or systemic factors.
- (2) The efficiency of the defence forces may be enhanced by improvement of oral and bodily health.
- (3) The great majority of individuals on modern refined diet require supplementary treatment to assist the resultant functionally decreased, defensive forces. This treatment involves dental services and oral hygiene.
- (4) The prevalence of dental disease indicates that natural defences are generally insufficient.
- (5) The problem of enhancing the natural defences is primarily dependent upon the dental education of the public on care, dietary and functional requirements to render the most advanced

tageous balance of the variables concerned.

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EVIDENCE: The wish that anything may be true, powerfully influences the mind toward finding it true. A researcher in pure science is usually far less influenced by prejudices and wishes than is the investigator who is aware of the practical results of his findings. Even the pure scientist is, however, likely to be prejudiced in favour of a theory that he himself has proposed or espoused. His reputation depends upon its being verified, hence in his selection of facts and interpretation of results, he is unconsciously prejudiced. This tendency to error has, however, a natural corrective. Other scientists may make their reputation by finding defects in old theories and in proving new ones. It has now become a recognized principle that evidence of the truth of a theory presented by one man cannot be accepted as reliable, even as to the facts given in its support, until others have made the same observations and experiments with the same results. This is especially required when the facts reported seem not in harmony with well-established theories.—Edwin A. Kirkpatrick. Journal of the International College of Surgeons 15:175, February 1951.

Diminution of facial measurements and atrophic changes of the jaws are due to loss of musculatory function in consequence of loss of teeth. Dentures worn in time would prevent these senile changes. Dentists would do well to always remind their patients of this fact when they fit them with their first denture. Otherwise dentures may well become instruments of psychosomatic injury for those who fear nothing more than growing old and see in "false teeth" the first sign of it.—Harry Benjamin, M.D., New York.

The proficiency of an anaesthetist, whether he be a physician, dentist, nurse, or special technician, depends as much on aptitudes and capacity as on schooling and experience and, as in other spheres of human endeavour, certificates of qualification and degrees do not afford an entirely reliable means of measuring efficiency.—Howard R. Raper.

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The Forum

THE MAXILLARY SINUS AND ALVEOLAR ABSCESS

by EARLE H. THOMAS, M.D., D.D.S., LL.B., Chicago, Illinois

Condensed from F. Review of Chic. D. Soc

1. (a) *What procedure is followed if the floor of the maxillary sinus is punctured or opened in removing a tooth?*

In principle, the puncturing of the sinus floor is ignored; in other words, the socket is treated as one that is normal. If excessive bleeding occurs, however, the nostrils are held closed every few moments, with the mouth left open, and the patient is instructed to try to blow air through the nose. The air will blow out through the socket and expel excess blood with it, thus preventing the accumulation of blood in the sinus. This procedure is continued until the blood starts to clot. If there is insufficient bleeding, the walls of the socket should be sacrificed and the opening of the socket into the mouth covered with gauze until the socket fills with clotted blood.

If the opening is very large and the anatomy of the sinus is such that its floor has dipped down leaving a short depth of tissue between the sinus and the mouth, a flap operation should be performed closing the opening completely.

(b) *What procedure is followed if a root is forced into the maxillary sinus?*

The socket should be dried and carefully examined to see if the root fragment is in sight. Many times it will be seen at the margin of the opening and still attached to the soft tissues. If so, the opening into the sinus should be enlarged without disturbing the root fragment which then can be manipulat-

ed into the socket by means of a right-angled explorer.

If the root fragment is not in sight, it is usually in the immediate vicinity. The opening is enlarged and a blunt ended right-angled instrument is inserted into the sinus and its point swept in a circle over the sinus floor. This procedure will often bring the root into view. If this fails, the opening is made much larger so that the vision is better and so that a longer instrument may be used. This latter procedure should prove successful in most instances. If not, the sinus should be filled with saline solution and the patient instructed to blow the solution into the mouth in the same manner that air would be blown. The force of the stream of fluid will often carry the root with it.

In a refractory situation, a buccal flap can be made and all of the buccal plate of bone removed up to and, if necessary, including part of the buccal wall of the sinus. In rare instances, an opening through the canine fossa may be necessary.

In all cases where any large opening is made into the sinus, the opening into the mouth should be closed with sutures, using flaps if necessary.

(c) *How do you treat the sinus if infected?*

Irrigate the sinus every second day until there is no more pus formation. The antibiotics are helpful. When pus formation stops, the opening into the mouth should be closed.

2. (a) *What is the natural course of*

an acute alveolar abscess from its incipency until marked swelling occurs in the face or neck?

At first there is pus formation and a consequent absorption of cancellous bone in the direction of least resistance. When the cancellous bone has been destroyed as far as the cortical bone, pus and other toxic secretions are forced through the multitudinous openings in the cortical bone and cause a stripping of the periosteum in this region. Finally, the toxic products break through the periosteum into the adjoining soft tissues—cheek, lip, palate, floor of mouth, or neck—and continue to spread usually along fascial planes.

(b) How should it be treated at typical stages of its course?

Until pus has started to strip the periosteum, drainage should be established through the root canal of the tooth.

At the first indication of the periosteum being involved, and without waiting for "localization," an incision should be made exposing the cortical plate in that region and gauze or other type of drainage should be maintained until Nature has overcome the infection.

In neglected cases with large accumulations of pus in the soft tissues, the incision is made in the same region as above indicated and the gauze drain is inserted to the depth of the soft

tissue destruction. In deep neck infection, this incision is made in the floor of the mouth adjoining the inner cortical plate of the mandible.

Extra-oral incisions are rarely necessary. Practically the only time they are necessary is in the case of neglect to such an extent that subcutaneous tissue has all been destroyed in some region.

Antibiotics are rarely used by us in the ordinary abscess because they mask the development of symptoms of necrosis. If used, they do not obviate the necessity of following the above surgical procedures unless one is willing to allow unnecessary destruction of tissue and unnecessary toxic detriment to all body tissues while waiting to see their effect. In the so-called fulminating infections we always use antibiotics in addition to surgical drainage.

(c) At what stage should the tooth be extracted?

The tooth is not removed until all inflammation has subsided.

When infection has passed through the cortical bone into the adjacent soft tissues, the condition is not an "ulcerated tooth." It is an acute infection of the cheek, lip, palate, floor of the mouth or neck. Such infection is serious and it is this infection that we treat. The tooth that started the train of events can be ignored until the serious infection is overcome.

GINGIVAL MESSAGE

by ISADOR HIRSCHFELD, D.D.S., New York

Conclusions of paper in Jour. of A.D.A., Sept. 1951

1. Some of the tooth's morphologic elements protect the gingival sulcus from having food forced into it in mastication, but the gingivae generally are massaged with considerable force by food through the action of the tongue, cheeks and the occlusal forces.

2. When the masticatory function is subnormal in quantity or quality, massage with a brush or an interdental stimulator can supplement the curtailed gingival stimulation effectively.

3. Gingival massage aids in the prevention and treatment of certain types of periodontal disease although it is contra-indicated in others.

4. Effective toothbrushing massages the gingivae even without any special effort at stimulation.

5. The interdental stimulator can reach certain interproximal regions inaccessible with the brush and it is a valuable aid in treating various forms of periodontal disease, especially gingi-

val hyperplasia and periodontitis. It also aids in posttreatment of ulcerative gingivitis. Since the stimulator, because of its shape and texture, is practically useless as a cleansing implement, its value lies only in its ability to massage the gingivae.

6. Dental floss and the water syringe are useful in cleansing adherent food from the teeth but they cannot be considered massaging implements.

7. Since in a fairly large group of epileptic patients there was no correlation demonstrable between the status of oral hygiene and the incidence of gingivitis, and since in this condition as well as in other types of gingival hyperplasia in which brushing plays a major role in reducing the bulk of the tissue, the brush bristles cannot effectively clean the deep pseudo-crevices, it is evidently the massaging action rather than the cleansing that is effective in the treatment.

8. The remote theoretical possibility that gingival massage may cause transient bacteremias that may lead to subacute bacterial endocarditis in susceptible individuals is not great enough to cause dentists to discard gingival massage as an important preventive or therapeutic measure. The periodontal patient is constantly being subjected to transient bacteremias during mastication and there is no evidence that gingival massage can cause subacute bacterial endocarditis any more than mastication.

9. Although the precise manner in which gingival massage produces its beneficial effects is not known, these benefits can be demonstrated. Massage, therefore, deserves a place in periodontal treatment on an empirical basis. Continued study of the physiologic, biochemical and histologic basis for the effects of massage are certainly indicated.

AUXILIARY DENTAL PERSONNEL

by HUGO M. KULSTAD, D.D.S., San Francisco

Condensed from the Dental Assistant, Aug., 1951

To increase production capacity to meet the present and increasing demand is not simple, but is possible. Increasing the number of dentists is not necessarily the only way or the best way to solve the problem.

Several studies have indicated a remarkable increase in the productive capacity of a dentist with the proper use of auxiliary personnel and equipment.

Dentists using no auxiliary aid averaged 37 patients during the week of April 16-22, 1950, with one employee, 51 patients; and with two employees, 63 patients. Yet only 65 per cent of all dentists used any type of auxiliary personnel.

At the same time, it was shown that dentists using two chairs had 26 per cent more than those with one chair, and those with three chairs 45 per cent more than those with one chair.

In the face of these facts, 47 per cent

of the dentists in the United States use only one chair. Can we afford such inefficiency?

Good business methods not only call for more help, but better help, and each additional employee or piece of equipment that helps increase production is needed.

Approximately 6,000 dentists in California belong to the State Dental Associations and yet, the two Dental Assistants' Associations have a total of only 1,279 members. Consequently, we do not know how many assistants are employed. Dental assistants get the same type of benefits out of memberships in their organizations as the dental profession does, and these benefits reflect to the credit of the dentist employing them.

The auxiliary personnel employed by dentists invariably brings about a better quality of service to the patient. All of us automatically do a better job

when we are being assisted and observed.

Accounts are handled much better by auxiliary personnel than by the principal in any business. Not only is an account paid much more promptly, but the relationship with the doctor is entirely on a professional basis throughout the whole experience, and is more impressive to the patient.

Legal implications are much less likely to develop, if the doctor has witnesses in his office. Both malpractice and improper conduct charges are becoming more common in California courts against professional men. In ages 20 through 44, there are 162 females for every 100 males who visit the dentist. The male practitioner is less apt to be accused in a lawsuit if there has been a third or fourth person in the room.

All offices are cleaner and neater if a female employee is on the job, and the telephone is answered more efficiently.

Receiving patients or other visitors is time-consuming, as well as disrupting to operations and thought. A well-trained assistant can earn her salary every day in this service to the dentist and patient. Young children, especially, react more favourably to the office on their first visits, if greeted by a woman. Invariably, they are more accustomed to their mothers' ways, and office procedures will seem less strange.

Courses to improve the knowledge and ability of the assistants already in

the field are being made available.

The certification courses arranged by the Dental Assistants' Association, and its components, have been a real inspiration to many of the girls, and it will soon be necessary for an assistant not only to have formal training in a recognized school, but also to be certified to get the better positions in this area.

Some of our dental schools are recognizing the desirability of changes in training all dental personnel and, in time, we may see such programs in California. One eastern school provides team experience for the student dentist, dental hygienist, dental assistant and dental technician. The arguments against such a program of educating "different levels of personnel under university discipline" are not valid or realistic. The medical profession has found it possible to educate physicians and nurses as well as other auxiliary aides in teaching hospitals associated with medical schools which correspond to our infirmaries or clinics. If dentists were taught to use all of our presently accepted auxiliary help during their infirmary experience, much of our problem would be solved. The problem of developing methods to train dentists, both in undergraduate and postgraduate courses, to use auxiliary aides is a responsibility of our dental educators. The dental profession will have to insist on these changes before this will be done in all of our schools.

CONTINUED ANAESTHESIA OF THE LIP AFTER ALVEOLAR INJECTION

From Jour. of Oral Surgery

Q.—Following an inferior alveolar injection for the extraction of a lower tooth, a patient of mine complained of persistent anaesthesia of a small area of the lower lip for several weeks. What is the cause of this?—I. W. W., Lincoln, Neb.

A.—The most probable cause is in-

jury to some of the fibres of the inferior alveolar nerve by striking the nerve with the point of the needle. It is possible to sever some of the fibres of the nerve with the sharp point of a needle, if the needle strikes the nerve. This anaesthesia is temporary and should disappear in a matter of a few months.

HEAVY ANALGESIA—LONG APPOINTMENTS AND THEIR MANAGEMENT

by J. F. ERDMANN, D.D.S., Lakefield, Minnesota

Condensed from *North-West Dentistry*

Long appointments have always shown a great deal of merit. Dentistry, for any type of person, is not a pleasant experience. Having a tooth filled is a combination of many little hurts. It is up to us, as dentists, to do as much as possible to make an operation as painless as possible for our patients.

A long appointment can double production. This has been a proven fact for some time. By long appointments, we mean an appointment of two hours or more. An appointment of fifteen minutes to one hour, in which operative work is done, is a waste of time to the patient and to the dentist. But a long appointment with heavy analgesia and proper organization can multiply production and at the same time make it easy for the patient and the dentist. With the patient in a relaxed state, it is possible to do all the preparations in one sitting.

Early in 1940, following a meeting of a group of physicians and dentists our profession was criticized for our indifference to the pain that we caused our patients—both operative and post-operative.

Sodium seconal is completely safe to use in dentistry. Fatality is unheard of in dosages such as used in dental work or in the hypnotic analgesic dosage of three to five grains. It would take thirty grains and over to be fatal. In a case of attempted suicide, a dosage of 150 grains did not prove fatal.

As well as being the fastest of the barbiturates, sodium seconal gives a better analgesic and partial amnesia effect than some of the others. Because of its rapid oxidation, it gives the quickest recovery.

On occasions, when we do not have a deep enough effect, I have used demerol chloride intramuscularly or in combination with a novocaine injection. Demerol ranks near morphine in its analgesic effect.

We administer sodium seconal en-

tirely by mouth, usually in capsule form but occasionally in an elixir for children. The person with a slow digestive process will give a slower reaction. The fastest absorption of the drug occurs when taken on an empty stomach. We even caution the patient not to eat a midnight lunch the night before and not to eat any heavy greasy foods at the evening meal. They are also cautioned not to eat heavily after leaving the office.

DOSAGE

For an adult of average weight and height: Take one 1½ grain capsule of sodium seconal at 9:00 with H₂O.

Take one 1½ grain capsule of sodium seconal at 9:15 with H₂O.

Appointment at 9:30—February 21, 1951: No breakfast.

For a child of eight to twelve: Use the same directions except prescribe ¾ grain capsules.

For a child of four to eight: Usually one ¾ grain capsule is sufficient, or we may use about one grain.

For a child of two or three: Use ½ to ¾ grain.

We always tell the patient that someone must bring them and someone must come to take them home. Never let them drive a car. If the action is not deep enough when they arrive at the office, we will give a ¾ grain capsule or a 1½ grain, depending on the operation and the type of patient. We temper any additional dosage with judgment. We have given as much as six grains to get the degree of analgesia that we need.

Naturally, there are some patients who do not react as favourably as others. We find that one person in twenty-two or twenty-four will become nauseated; some of these may vomit. If this should occur when the operation

is over, it is for the best, as the recovery will be rapid from then on.

We keep a bottle of Pepto Bismol to aid the milder nausea. One case in a hundred, usually a patient having a case of ulcers or a very weak stomach, may be quite ill for a day and even the next. This occurrence is so infrequent that it is of no great consequence.

It is usually a pleasure doing children's dentistry this way.

With the patient quite deep in analgesia plus novocaine, if thought necessary, the dentist can proceed as rapidly as he can cut. The patient won't gag, doesn't need to spit, and the vibration will not bother him. The saliva ejector system must be very good because it will be necessary for the assistant to keep a steady stream of water on the stone or diamond point. All the occlusals can be cut in one section of the mouth without stopping the engine or changing stones. With the same stone the dentist can go from one tooth to the other without overheating a tooth and nearly complete the occlusal outline.

For amalgam or inlay preparations, a 700 contra angle bur should be used,

sinking as far gingivally as is needed. Then it is brought out to the buccal and lingual nearly as far as desired. This gives the approximal outline. Here again the operator goes from one tooth to the other doing all in one quarter of the mouth with as few stops as possible. The assistant should be using air and water continually.

Next, a broken double end small hatchet instrument is used to break out the undermined enamel, then a 560 or 562 cross cut bur, or a diamond of about the same size, to form the gingival seat. In an inlay preparation, a lightning disc is used to smooth the buccal and lingual walls. The gingival for an inlay can be beveled with a diamond point or stones so shaped to give the desired bevels. For amalgams, the retention undercuts on the approximal can be completed or nearly completed with a small inverted cone bur or a 700. In other words, the finishing of the preparation is the same as always, except that the operator can go from one tooth to the other without stopping or changing burs. The hydrocolloid method fits in very nicely with these long appointments in doing good work.

HAEMORRHAGE: A NEW WAY OF CONTROLLING IT

by GUSTAV WM. RAPP, Ph.D., Department of Biochemistry and Physiology, Loyola University School of Dentistry, Chicago, Illinois.

Condensed from F. Rev. of the Chic. Dent. Soc., Aug. 15, 1951

Nature has used the coagulative power of alginates long before man even suspected such a potentiality. It is well known that when some forms of sea life are injured, the calcium from the sea water reacts with the alginate in the sea plant and seals up the "wound." The *Journal Lancet* carried a note in 1946 about the usefulness of alginic acid as a styptic.

In practice, the alginic acid powder is blown onto the cut or wound by means of an insufflator, so as to form a very fine film. This film immediately stops the flow of blood by forming an adherent film over the wound. Below

this film, the ruptured platelets set up the coagulating reaction to form a normal clot. Even though the thin film, now calcium alginate, is removed, the blood does not flow again since the clot below it has already formed.

The alginic acid has been used as a haemostatic agent in such instances as:

- (a) simple extractions
- (b) alveolectomies
- (c) deep scaling of teeth
- (d) removal of impacted teeth
- (e) gingivectomies

In every instance, the haemorrhage stopped immediately on contact with the powder.

Golden Jubilee Meeting

THE CANADIAN DENTAL ASSOCIATION

In Co-operation With

THE BRITISH COLUMBIA DENTAL ASSOCIATION

Vancouver B.C. • June 15-16-17-18, 1952

To the Dental Profession in Canada the year 1952 has a very special significance, being the Golden Jubilee Year of the Canadian Dental Association. The British Columbia Dental Association is honoured in having the opportunity of entertaining the Profession in Vancouver June 15th to 18th. The B.C. men have been working diligently for the past several months on the details necessary to celebrate this occasion with a conference program of exceptional calibre.

While in some ways June may seem rather far off, in reality it is but a few short months. Now is the time for making plans to attend this Joint Conference and to enjoy your vacation in the West at the same time. In later editions of the Journal you will read details of the program as they are finalized and will be furnished with suggestions for attractive scenic tours through this great Pacific Coast Country.

May we urge you to mark off these dates on your 1952 diary and plan to attend this great meeting in June—bring along the family for a grand vacation.

Reservations for accommodation are being received at this time, and should be accompanied by your registration fee of \$15.00 to ensure preferred consideration. Mail your requests to:

Dr. Chas. M. Whitworth,
218 Medical and Dental Building,
925 West Georgia Street,
Vancouver 1, B.C.



VANCOUVER, LAND OF THE THUNDERBIRD
CANADA'S EVERGREEN PLAYGROUND

ANNOUNCEMENTS

● **THE GRIEVE LECTURESHIP**—The Dental Fraternity will be pleased to learn that the halfway mark has been passed in the \$5000. objective for establishment of the George Grieve Memorial Lecture Fund. The Grieve Memorial Annual Lecture will serve as a stimulus to future accomplishments in the field of preventive dentistry and at the same time perpetuate the memory of a great Canadian dentist.

Those who wish to share in this worth while undertaking may send contributions to Dr. Don W. Gullett, 234 St. George Street, Toronto 5, and he will forward a receipt for income tax purposes. The George Grieve Memorial Committee

● **THE NEXT MEETING OF THE CANADIAN DENTAL ASSOCIATION** will be held in co-operation with the British Columbia Dental Association at Hotel Vancouver, Vancouver, B.C.

DATES — Board of Governors Meeting, June 11, 12, 13, 14, and Convention, June 15, 16, 17, 18, 1952.

● **INTERNATIONAL ASSOCIATION FOR DENTAL RESEARCH**: Founded by William J. Gies, December 20, 1920. The 1952 General Meeting will be held at Broadmoor Hotel, Colorado Springs, Colorado, March 21-23, in collaboration with the meeting of the American Association of Dental Schools at the same place on March 24, 25 and 26.

● **THE MINNESOTA STATE DENTAL MEETING** will be held in Saint Paul, February 18-20. The Dental Forum will feature Oral Surgery. The following speakers will participate in the Convention: Dr. L. M. Fitzgerald, Sec. of the American Board of Oral Surgery; Dr. Harold W. Krogh, Washington, D.C. on "Antibiotics"; Dr. Miles R. Markley, Denver, Colorado, on "Amalgam"; Dr. P. W. Herrick from the Crown and Bridge Section of the Univ. of Iowa; Dr. Hollis Askey of Lincoln, Nebraska, on "Practice Management"; Dr. I. A. Epstein of Saint Paul on "Endodontia"; Dr. John B. Wendland of Minneapolis on "Eyes".

There will be also outstanding table clinics.

● **THE COLLEGE OF DENTISTRY, THE OHIO STATE UNIVERSITY** announces the following **POSTGRADUATE COURSES** in dentistry during the Winter Quarter, 1951: Clinical Oral Pathology; Children's Dentistry; Oral Surgery; Periodontics; Partial Denture Prosthesis; Full Denture Prosthesis; Endodontics; Anatomy of Head and Neck; Airbrasive Technique.

Each of these courses is presented for five consecutive days, Monday through Friday. The enrolment for each course except Endodontics is limited to approximately ten men. The course in Endodontics is limited to five men. The fee is \$50 per course with the exception of Oral Surgery, Endodontics and Airbrasive Technique for which a fee of \$100 is charged.

Application should be made directly to the Postgraduate Division, College of Dentistry, Ohio State University, Columbus, Ohio.

● **THE DIVISION OF GRADUATE AND POST-GRADUATE STUDIES OF TUFTS COLLEGE DENTAL SCHOOL WILL CONDUCT THE THIRD ANNUAL BERKSHIRE CONFERENCE** in Periodontology and Oral Pathology at Eastover, a resort hotel in Lenox, Massachusetts, June 15 to June 19, 1952. The conference will consist of four days of lectures, seminars, and panel discussions regarding clinical problems by outstanding teachers and clinicians in dentistry, medicine, and their related fields.

The following subjects will be considered: Histopathology of Oral Mucous Membrane Lesions Other Than Tumours; Partial Denture Prosthesis and the Periodontal Problem; Clinical Haematology; Present Day Frontiers in the Periodontal Field; Fixed Bridge Prosthesis and the Periodontal Problem; Psychosomatics in Periodontal Diagnosis; General Principles of Neoplastic Disease; Oral Neoplasms; The General Adaptation Syndrome; Clinical Nutrition; Fundamental Principles Governing Orthodontic Periodontal Relationships; Clinical Management of Oral Mucous Membrane Lesions Other Than Tumours.

Tuition—\$100.00. Room, board and incidentals—\$70.00 per person. For further information regarding this conference write:

The Berkshire Conference,
Tufts College Dental School, 136 Harrison Avenue,
Boston 11, Massachusetts.

● **AMERICAN DENTAL ASSOCIATION** Convention, St. Louis, Mo., September 8-11, 1952.

● **CHICAGO DENTAL SOCIETY**, Feb. 4-7, 1952.

● **1952 CONGRESS OF THE EUROPEAN ORTHODONTIC SOCIETY**, July 14-17 in Amsterdam. Pres. J. A. C. Duyzings, Utrecht, Netherlands.



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Editorial

MANAGEMENT DECISIONS REFLECT PROFIT OR LOSS

The above premise was adopted as the basis of discussion at the seventieth session of the American Dental Trade Association. Some of the suggestions made are most applicable to the practice of dentistry.

H. U. Deeley, Jr. of Baltimore, speaking on "Training" spoke in part as follows: "Sales training today is as elementary as knowing the difference between your right and left hand and that training must be two-fold. First is the subject of attitude. People either don't understand or have forgotten that their attitude towards others has a tremendous bearing on their earning power and employment security. Second is the perpetual reminder of the seven points called 'The Common Sense Seven.' 1. Smile over the phone and in person. 2. Everyone has a name—get it and use it! 3. People deal where they don't have to wait. 4. People like to buy; make it easy for them. 5. The customer is not always right, but as far as the salesman is concerned he is never wrong. 6. Recognize and make your own breaks. 7. Treat a burn with a salve."

How much time do we as dentists give to studying our attitude towards our patients? It is not always the most skilful dentist who has the largest practice, but rather the one who by his friendly attitude pleases his patients and sends them away with a feeling of goodwill, ensuring their return for further service.

If we are wise we will insist that our secretaries and assistants smile over the telephone and smile in their reception of patients, but are we ourselves not often so busy, or engrossed in some details, that we forget to exercise this basic principle of successful practice?

We too as dentists should insist that our secretaries greet every patient by name, if the name is known, and of course the dentist will be able to do so, and should do so, as the patient's name will have been given to him before the patient enters the surgery. People like to hear their names so why not humour them?

Of course, patients do not like to wait, particularly when time has been reserved for them. In dentistry it is not always possible to keep reservations promptly, but a much greater effort should be made to be on time. Some years ago a prominent New York dentist, whose patients comprised many busy business executives, told me that if he were five minutes late for an appointment he would not expect to find his patient waiting in his reception room. This is no doubt an extreme situation, but how long do many of us keep our patients waiting?—many times longer than is necessary if a careful study were made of this problem. I like the idea of reserving time for a patient rather than making an appointment.

The obtaining of dental services can be made easier for many people if proper credit arrangements are made at the time of the examination. Most business houses have found this plan a necessity if they are to remain in business, so we as dentists should study and adopt such a plan.

The decisions we make with regard to these matters and many other similar ones mean the difference between a successful practice and a mediocre one, between a comparatively large income and a much smaller one, between happiness derived from success and the disappointments which come from defeat, particularly as the later years arrive, years to revel in or years to haunt us.

M. H. G.

BOOK REVIEW

The Porcelain Jacket Crown, a Manual stressing the preparation of Normal and Abnormal Teeth by S. Charles Brecker, D.D.S., Former Assistant Professor of Operative Dentistry, New York University, College of Dentistry. 290 illustrations and frontispiece in colour. Published by the McAinsh and Co., Toronto, Ont. Price \$9.00.

The subject matter of this book is dealt with under the following headings: Classification of Preparations for the Porcelain Crown; The Preparation; Preparation of Teeth Influenced by their Anatomy, Condition, Position; Procedures after the Preparation is Completed; Shortcomings of the Porcelain Jacket Crown—How to Prevent or Minimize them; Porcelain Bridges.

Numerous illustrations with explanatory sketches are used to stress the procedure under discussion. Some of the illustrations, it would

seem to your reviewer, could be improved by further art work on the part of the publisher, and by so doing would convey the message intended, to better advantage.

The text is well laid out, is clear and concise.

The reader is warned on the danger of injury to the gum tissue by careless use of discs. It is noted that no mention is made of the use of the rubber dam in finishing the shoulder of the preparation. In the opinion of many operators this is indispensable as it protects the gum tissue from injury, gives a field clear of saliva, or blood and retracts the gum tissue without the use of ligatures, so that the shoulder is placed under the gum tissue without injury to the tissue. In sketches it is noted that the relative position of the shoulder of the preparation could be further gingivally if the rubber dam were used.

The procedure of illustrating atypical preparations calls for commendation, for as the author states, "Rarely are we called upon to prepare an ideal tooth yet most methods describe the perfect tooth only" and "Treatment of malposed and malaligned teeth is introduced with a new approach to the preparation."

Probably one of the most important steps

in the ultimate success of the porcelain jacket crown is the cementation. This is dealt with briefly. It would seem to your reviewer that further amplification on this subject would be a desirable addition to the text.

Despite some of the foregoing remarks however it should be apparent that this book is a most useful and timely addition to dental literature.

H. M. Cline.

ROYAL CANADIAN DENTAL CORPS NEWS

1. Lt.-Col. G. B. Shillington was the dental representative on a Sub-Committee of the Inter-Service Medical Committee which recently completed an inspection of the dental facilities of the Treatment Centres on the West Coast.

2. Major H. W. Hart was recently posted to the Instructional Staff of the

R.C.D.C. School. Major Hart on graduating from the University of Oregon, 1940, was appointed to the C.D.C. He served Overseas with No. 3 Coy. C.D.C. in England and Italy.

3. Lt.-Col. K. M. Baird recently visited the dental installations in the Washington, D.C. area.

CANADIAN DENTAL ASSOCIATION NEWS

FROM THE OFFICE OF THE SECRETARY

Report by Research Committee:—"Recent statements made by the Canadian Dental Association concerning the development of adequate dental health service for the public of Canada have stressed two very important points.

1. Prevention of dental disease.

Reducing the present tremendous need of treatment service by prevention is essential.

2. Stimulation of research.

More knowledge of the nature of dental and periodontal disease must be developed so that prevention may be efficient. The new knowledge can only be developed by research studies.

The dental profession of Canada has the opportunity to offer world leadership in dental research and in the prevention of dental disease. Experience in Great Britain and other countries indicates that the dental profession is completely unable to cope with the problem of dental diseases by treatment services alone. If for no other reason than our position in public and political relations, it is essential that we show obvious evidence of a strong effort to bring to the public of Canada some reasonable degree of dental health. Stimulation of research must be, and must be known to be, a main function of the progressive Canadian Dental Association."

New Representative for Alberta Appointed:—Notification has been received

that Dr. R. R. McIntyre of Calgary is the official representative for Alberta on the Board of Governors. Dr. McIntyre has a long experience of activity in organized dentistry. For the Canadian Dental Association, he was Chairman of the Committee on Dental Public Health for two years and is Chairman of the Orthodontic Section for the current year. He succeeds Dr. Baden Powell as representative for Alberta.

Sale of Candy and Carbonated Beverages Banned in U.S. Schools—On August 2 the National Congress of Parents and Teachers of United States stated that the sale of candy and carbonated beverages should be banned in the Nation's schools. In a report from Chicago Headquarters, the Congress commented that these sweets interfere with a balanced diet and the promotion of sound food habits.

The Council on Foods and Nutrition of the American Medical Association also has urged abolition of carbonated beverage dispensing machines in public buildings.

These actions are in accord with a resolution adopted by the Council on Dental Health, American Dental Association, at its meeting last fall which discouraged the sale of candy, soft drinks, and other confections in schools.

Alpha Omega Fraternity becomes Incorporated:—As reported in the Canada

Gazette issue of 8 September 1951, notice is given by the Secretary of State that the Alpha Omega Fraternity is incorporated under The Companies Act, 1934. The incorporators are Doctors Harry Myer Jolley, Louis Benjamin Oiffer and John Albert Sherman, all of Toronto, Ontario.

Library of Professional Dental Films Established:—The National Medical and Biological Film Library has been extended during the past year to include professional dental films. The Library now contains twelve films of especial interest to the dental profession and will be extended as other films become available.

A revised catalogue has been issued and is now available at the Branch Offices of the National Film Board and in the Library of each D.V.A. Hospital. Additional copies may be obtained from the Distribution Branch, National Film Board, 71 Bank Street, Ottawa.

Full instructions re obtaining films for local showing are given in the catalogue and it is hoped that the films will be used by interested groups across the country.

Suggestions and details of availability of other films, suitable for inclusion in the library, will be welcomed by the National Film Board.

Summary of Washington Meeting of American Dental Association:—

1. Dr. LeRoy Ennis, Professor of Oral Roentgenology at the University of Pennsylvania School of Dentistry, was installed as President of the American Dental Association. Dr. Otto W. Brandhorst, Dean, Washington University School of Dentistry was named President-elect.

2. Action was deferred for one year on a resolution requesting that dentists be included in old age and survivors insurance program of the Federal Social Security Act.
3. Approval was given to a recommendation that state societies provide financial grants for underwriting voluntary prepayment dental plans.
4. A resolution was passed urging the armed forces to discontinue its policy of permitting dental officers to provide free dental care for dependents of military personnel.
5. Opposition to compulsory health insurance was reiterated.
6. Request was made for a new examination of need for the present ratio of two dental officers per 1000 military personnel.
7. Approval was given in principle to the establishment of local committees to adjust complaints from patients.
8. Ways and means were sought for the establishment of dental health programs in all communities.
9. The A.D.A. Board of Trustees met with President Truman during the meeting. Mr. Truman charged that his compulsory health insurance plan had been "widely and completely misrepresented". He said, "I have had all sorts of accusations made against me about my intending to turn the country into a Socialistic State, and all that sort of business, but all I am trying to do is to try to get proper medical and dental care for the people in a manner so that they can pay for it".
10. In brief: Attendance 10,652; Budget for 1952—\$1,488,425; Next Meeting—St. Louis, September 8-12, 1952.

NEWS FROM THE PROVINCES

ALBERTA

The **Calgary Dental Society** was privileged in having Dr. John Ingle, Associate Professor of Endodontics, University of Washington, Seattle, present afternoon and evening clinics on the most recent concepts of foci of infection as applying to Endodontics. He also presented the role of the antibiotics in treating foci of infection. His clinic was enthusiastically received by all present. The Society does not hesitate to recommend his clinic to those interested.

Having discovered that golf cannot be played all year and in anticipation of some colder weather for the next few months, Dr. Jack Walker has organized

Curling Bonspiels for the last Friday in each month.

Dr. John Ingle, Associate Professor of Periodontology and Endodontics at the University of Washington, Seattle, addressed the **Edmonton and District Dental Society** at its October meeting which occupied an afternoon and an evening session. Dr. Ingle's subjects were "A Practical Method of Root Canal Therapy" and "A Sensible Approach to the Use of Antibiotics in a General Dental Practice". His illustrated presentations were of a very high order and an essayist of Dr. Ingle's calibre always will be welcomed on a return visit.



Presentation of Honorary Life Memberships in the Edmonton and District Dental Society to Dr. Arthur B. Mason and Dr. Harold F. Whittaker, both of whom have made outstanding contributions to their profession during the forty-five years which each has practised in Edmonton. *Left to Right*—Dr. M. A. McIntyre, who presented Dr. Whittaker for the award; Dr. H. F. Whittaker; Dr. A. B. Mason; Dr. J. W. Neilson who presented Dr. Mason for the award; Dr. R. B. Cameron, President of the Edmonton and District Dental Society, who awarded the certifications of honorary membership to the two recipients.

Following the afternoon's scientific session, films of a recent Edmonton-Regina football game were shown. Coach Annis Stukus was present and most adequately commented on the various plays as they came up on the screen. Edmonton is very "football conscious" at the moment so this portion of the program proved a most appropriate diversion from the main business at hand.

During the evening meeting, honorary life memberships in the Society were conferred upon Dr. Arthur B. Mason and upon Dr. Harold F. Whittaker, both of whom have practised with distinction in this city for over forty-five years.

Dr. R. B. Cameron, the Society's President, announced that the executive was concerned with the amount of time which routine business had occupied upon each meeting's agenda. In an attempt to avoid this encroachment upon the time allotted for scientific presentations, all but the most important business matters will be discussed by the executive at a luncheon meeting on the Monday following the Society's regular meeting. Any interested members

are welcome to attend these executive sessions and present their views on any contentious (or non-contentious) subjects.

Some eighty members attended the day's proceedings. The senior class of the dental faculty was also in attendance and the 1951 winners of the Edmonton and District Dental Society prizes, Messrs. W. P. Hanna and John Friesen were introduced to the Society as was Mr. N. R. Fedirko, the winner of the 1951 Alberta Dental Association award.

The Edmonton and District Dental Society, maintaining what has become a worthy summer tradition hereabouts, held its usual series of informal golf meets during the past few months. These outings, while not producing golfers of the calibre of our American confrère, Dr. Cary Middlecoff, have continued to make a real contribution to good fellowship in this Society. The meets were held at tri-weekly intervals from May 15 to September 15. The various courses in the vicinity were visited and dinner was served at each club following the game. An interesting

after dinner speaker or entertainment was provided in each instance and the large and appreciative attendances testified to the continued success of these events. In addition, the annual Calgary-Edmonton-Central Alberta dental golf tourney was held in Lacombe early in the season. This occasion also maintained its high standard of performance and enjoyment. Prizes for good and bad golfers alike were provided by the dental supply companies and thanks are due them for these contributions. Dr. George Brass, the society's 1951-52 social convener, is also to be commended for continuing these activities on such a successful basis. Their institution is heartily recommended to other societies as a splendid opportunity for worthwhile and friendly get-togethers during the "off season".

Having survived the first year with a reasonable amount of success as the only rural dental organization in the province, the **Central Alberta Dental Society** has again organized for its second season.

This society was privileged in having, as special speakers and clinicians, staff members of the University of Alberta Faculty of Dentistry as well as men of both the medical and dental professions from Edmonton and the local community.

Dr. Walter McKenzie, head of the Department of Surgery, Faculty of Medicine University of Alberta, spoke to a joint meeting of fifty medical and dental practitioners from this area on the subject of "Professional Anaemia". He also stressed the great need for closer co-operation among all health professions.

Dr. C. D. Husband, Red Deer, gave a preview of his paper, given later at the Pacific Coast Dental Conference, entitled "Procaine in Local Anaesthesia—a discussion of acid and alkaline solutions of Procaine, emphasizing the advantage of the latter and a demonstration of its preparation for office use".

Dr. Amby O'Neill and Dr. Jack Neilson, both of Edmonton, speaking on "Full Denture Construction" and "Necrotic Gingivitis" respectively, were also high-lights of the season.

Under the new President, Dr. S. Adam of Ponoka, this Society anticipates another interesting series of meetings.

SASKATCHEWAN

Saskatoon Dental Society:—The activities for the year commenced with a most successful October meeting. Dr. J. Freeman, Oral Surgeon of Winnipeg, was the guest Clinician and he made a very inspiring practical presentation of

treatment of many of the problems in this branch of dentistry. His informal illustrated lectures were enthusiastically received because they contained many helpful suggestions for the dentist in general practice. The attendance was one of the largest for any clinic, and was particularly well patronized by the associate members from outside the city. The executive has an excellent program planned for the year.

The society extended sincere congratulations to Dr. M. J. MacDonald upon the honour bestowed on him as a Fellow of the International College of Dentistry. L. D. H.

At the Annual Meeting of the **Moose Jaw Dental Society** the following officers were elected: President, Dr. E. E. Eades; Vice-President, Dr. L. Miller; Secretary, Dr. A. Wong.

Moose Jaw Times-Herald

MANITOBA

The 1951-1952 season of the **Winnipeg Dental Society**, under its new slate of officers, was officially opened on October 22, with the well-known and celebrated amalgam enthusiast Dr. Carl Miller of Cleveland, Ohio in attendance as a clinician.

The new plan of an all-day clinic session, leaving the evenings free, seemed to meet with complete approval as far as may be judged from the numbers in attendance. Dr. Miller is a naturally gifted teacher, the sort which receives the 'don't want to miss a word' attention.

It is interesting to one who had G. V. Black and W. Harper for amalgam instructors to attend the amalgam clinics over the years and watch the ebb and flow of the tide for or against certain basic principles presented by the two above-mentioned pioneers and see the tide eventually return to the Black and Harper teachings. We know of multi-surface amalgam restorations inserted 35 to 40 years ago by the B. & H. method which are still functioning, with the pulps healthy too.

Dr. Miller can come back here at any time and we will be grateful for the opportunity to listen to his teachings inspired by his years of experience. It was inspiring to see men of three generations keen to improve their amalgam work.

Dr. Orwell Brown, the 1951-52 presiding officer of the Society is to be congratulated on the program which he and his officers have set up for the coming winter. All are looking forward with interest to the several meetings.

J.F.M.

ONTARIO

Faculty of Dentistry, Toronto reports registration this year as follows:

Undergraduates	374
Dental Hygienists	6
Dental Nurses	23
Diploma Courses	
Dental Oral Surgery and	
Anaesthesia	1
Dental Public Health	1
Paedodontics	2
Periodontics	3
Bachelor of Science in Dentistry	3
Master of Science in Dentistry	
General	2
Orthodontics	12
Total	427

The opening meeting of the **London and District Dental Society** for the 1951-52 season was held in the Hotel London on November 10, 1951, with approximately sixty dentists from London and district in attendance. The dinner meeting was presided over by the retiring President, Dr. D. C. Stiles, who introduced the new President, Dr. H. J. Dickson, of St. Thomas. Other members of the Executive are Dr. J. B. Taylor, Secretary, Dr. D. E. Cousins, Treasurer, and Dr. J. A. Guest, Press Correspondent, all of London. Retiring from the Executive are Dr. Stiles and Dr. J. A. Milne, the latter having served for the past year as Treasurer. Appreciation for their efforts on behalf of the Society was expressed and a motion to that effect was placed on the minutes of the meeting.

Financial reports of the past year's activities and the annual Golf Tournament were submitted by the Treasurer and in each case a surplus was recorded. Plans for the coming year include the holding of a sixth monthly meeting in addition to the five meetings held previously. Announcement was also made of the Annual London Branch Toronto Alumni Dinner. This year the President of the London Branch is our own Dr. J. A. Gillies and the special speaker for the dinner, to be held on January 30 in the Hotel London, will be Dean R. G. Ellis, Faculty of Dentistry, University of Toronto.

The guest speaker at this opening meeting was Dr. Sidney Woolatt, Professor of Prosthodontia, Faculty of Dentistry, University of Toronto, who presented a paper on "Basic Principles of Full Denture Construction." Dr. Woolatt's happy faculty of combining the carefully prepared contents of his paper with his own inimitable mode of presentation was never more in evidence and the result was an extremely profitable and enjoyable evening for all concerned. Dr.

Woolatt also brought greetings from the Royal College of Dental Surgeons and reported on recent staff changes in the Faculty. J. A. G.

The annual membership tea of the **Ladies' Dental Auxiliary** was held on Oct. 18, at Prince Arthur House.

Receiving with Mrs. F. H. Shepherd, President, were Mrs. R. G. Ellis, Mrs. J. E. Verth and Mrs. M. Boyes.

Presiding at the tea table were Past Presidents Mrs. A. F. Cooper, Mrs. L. R. Davison, Mrs. F. L. Dayment, Mrs. E. T. Guest. Assisting were: Mrs. H. K. Box, Mrs. H. E. Leyland, Mrs. W. G. McIntosh, Mrs. H. C. McLean, Mrs. K. McPherson, Mrs. H. Milburn, Mrs. R. J. Murray, Mrs. W. W. Philp, Mrs. G. R. Stinson.

Jean R. Stinson

Less candy was distributed to children at Halloween parties in London, Ontario, according to the London Free Press because one member of the London Boys' Work Council, which organized the celebration, was a dentist—Dr. A. J. Harris.

At one party, for example, the bags issued to each child contained an apple and two bags of peanuts, but no candy.

QUEBEC

At the monthly meeting for October of **La Société Dentaire de Montréal**, Armand Genest, M.D., D.D.S., was guest speaker. He was presented by Dr. V. Dube who recalled that Dr. Genest had spent thirteen years studying Medicine, Dentistry and Surgery, general and oral, before being appointed to the department of plastic and reconstruction surgery at the Hotel-Dieu Hospital, Montreal.

Dr. Genest delivered a paper on "Bone Grafts in View of a Satisfactory Mandibular Prosthesis." The speaker stated that the complete alveolar absorption presents considerable difficulties to the dental prosthodontist. The only remedy, of a surgical nature, known before, was the Kazanjian operation which consists in opening the buccal fold with the scalpel and inserting a cutaneous graft. After explaining the reasons for the failures with this technique, Dr. Genest presented his own solution to the problem: "The most logical way of treating the condition," said he, "is to reconstruct the alveolar ridge by way of a bone graft by the following technique: two labiolingual incisions are made to open the mucoperiosteum over the mandible in both right and left cuspid regions. Then the periosteum is elevated on both buccal and lingual aspects of the horizontal branch of the mandibular bone. A bone graft consisting of two pieces of

a rib, split lengthwise, are then inserted on the crest of the scraped body of the mandible. A few cases observed for a two-year period and wearing a full artificial denture over a so reconstructed ridge showed no absorption of the graft which resists very well the stresses of mastication. The impression of the new well elevated dental arch for a complete denture can be proceeded with three months after the operation."

An interesting discussion followed Dr. Genest's presentation and a few slides illustrated the progress of some cases.

Dr. Gerard de Montigny thanked the speaker in the name of those present and congratulated him on his fine and persistent work towards the solution of some most difficult problems.

G. de M.

The first monthly meeting of the **Montreal Dental Club** for the season 1951-1952 was held at the Queen's Hotel on October 15; the meeting was preceded by a dinner which saw approximately 70 members attending.

A special article entitled "A Retrospect of Sixty Years of Dentistry in Montreal," written by Dr. Charles F. Morrison, was presented to the meeting by Dr. E. T. Bourke. Dr. Morrison, who was unable to attend the meeting to present his article, is the sole surviving Charter Member of the Club and a Past President (1903).

Dr. Morrison, at the age of 17 years, began his indentureship under the late Dr. John Gentles in 1892 and obtained his licence to practise in 1896. His practice was located in the Birks Building in the same year and he remained there until 1945.

Dr. Morrison's article traced the history of dentistry for a sixty-year period in and about Montreal.

Following this presentation, the meeting also heard from Dr. A. W. McClelland and others of the senior members.

R. F. H.

A general meeting of the **Mount Royal Dental Society** was held on October 23 with the President, Dr. M. Star in the chair. Guest speaker of the evening was Dr. H. H. Pearson, whose topic was "An Introduction to Electronics in Dental Surgery."

Dr. Pearson outlined briefly the application of electronics in the medical field and gave a summary of its history in dental operations. He then went on to define the terms commonly used and explained the different types of current which might be utilized. Dr. Pearson devoted the latter part of his remarks to giving the indications for the use of the electronic scalpel and demonstrat-

ed methods and cases by means of slides.

The interest and enthusiasm of Dr. Pearson's audience was attested to by the number and variety of questions which he was called upon to answer. It was the consensus of opinion that Dr. Pearson had provided a most enjoyable and informative lecture.

S. Silver

From the office of the secretary of the **Mount Royal Dental Society** comes the following announcement:

Program for the 1951-52 season:

Sept. 18, 1951. Dr. H. M. Slater: General Anaesthesia.

Oct. 23, 1951. Dr. H. H. Pearson: "Electrosurgery."

Nov. 16, 1951. Dr. J. H. Kauffmann: "Preventive Dentistry,"—full day clinic.

Feb. 8, 1952. Dr. F. R. Gardner: "Direct Acrylics,"—full day clinic.

Mar. 21, 1952. Dr. J. Leaf: "Precision Attachments,"—full day clinic.

Apr. 1, 1952. Root Canal Symposium: Dr. Goldenberg, Moderator; Drs. Pearson, Zimmerman, L. Rosen, Israel.

Apr. 15, 1952. General Meeting. Dr. J. Fineberg: "Prosthetics."

Apr. 29, 1952. Annual Election Meeting.

In addition, Study Groups will be held on Dec. 18 and Jan. 8; also the telephone extension series will be held on Nov. 12, Dec. 10, Jan. 14, Feb. 11 and Mar. 10.

The regular monthly meeting of the **Montreal Endodontia Society** was held on October 29 in the dental amphitheatre at the Université de Montréal. Dr. M. H. Robichaud presented an article entitled "Restorations for Pulpless Teeth." A review of this meeting will appear in the next issue of the Journal.

NEW BRUNSWICK

The fifty-sixth annual meeting of the **New Brunswick Dental Society** was held at the Lord Beaverbrook Hotel in Fredericton on October 20-21. Dr. Kenneth Cogle of Saint John, the President of the Society was chairman of the meeting. The highlight was a luncheon at noon on Sunday. The guest speakers were the President of the C.D.A., Dr. Harold Cline of Vancouver and Dr. Donald Gullett, the Secretary, from Toronto. Dr. A. J. Coughlan of Saint John, the New Brunswick representative of the C.D.A., introduced the speakers. Dr. Cline gave an interesting and enjoyable talk illustrated with coloured views. Dr. Gullett gave an informative address on the new National Examining Board.

The report of the President, Dr.

Cougle, reviewed the progress made in the items further allowed for exemption under the Provincial Education and Social Services Tax; establishment of minimum fee schedules in Moncton, Fredericton, and Saint John, on a more comparable basis than the outdated list of 1942; the satisfactory response of the D.V.A. to pressure for an increase of its fee schedule; our representation at the formative meeting of a National Examining Board, in Toronto; the request of the Provincial Government for the Society to be represented in Civil Defence discussions; joint meetings of dentists and physicians in the interests of Oral Cancer; the awarding of the N.B. Dental Society annual cash prize to a member of the dental student body at Dalhousie; the welcoming of thirteen new members to the Society and a respectful minute of silence for the six lost by death during the year—Drs. E. P. Landry, F. C. Simms, A. H. LeBlanc, J. F. Worrell, H. Sproul and B. F. Reade; the acceptance of more N.B. dentists to take advantage of the N.B. Cancer Society scholarships in Oral Cancer; the Maritime Dental Association's convention in Charlottetown; and activation of three of the recommendations contained in the Dental Health Survey Report.

Dr. H. H. Peters of Saint John, who is the representative of the N.B. Dental Society to the Dental Council of Canada, gave an excellent report and much discussion took place on the change-over to the new National Examining Board.

Many other routine reports were given and the usual annual business was completed.

The revised D.V.A. fee schedule was adopted as the minimum fee schedule of the Society.

The following officers were elected for the coming year:

Pres.: Dr. R. S. Langstroth, Fredericton; Vice-Pres.: Dr. L. O. Leger, Saint John, Sec.-Reg.: Dr. S. K. Wetmore, Saint John.

Council: Drs. L. J. White, Perth; D. Boudreau, Edmundston; S. K. Cougle, Saint John; E. J. Leger, Bathurst; G. L. Ramsay, Saint John; A. Steuermann, Saint John; R. H. Bingham, Moncton; H. B. Fleming, Moncton; A. Hinch, Fredericton; B. O'Brien, Fredericton; W. A. Sinclair, St. Stephen; J. B. Sutherland, Woodstock; B. Duguay, Caraquet; J. D. Vatour, Dalhousie.

C.D.A. Representative, Dr. A. J. Coughlan. D.C.C. Representative, Dr. H. H. Peters.

BRITISH COLUMBIA

Guest speaker at the evening meeting of the **Victoria and District Dental So-**

ciety on October 22 was Alex Saich, who gave a most interesting description of "Dentistry in England."

The afternoon meeting saw that enthusiastic group of clinicians from the Vancouver and District Dental Society study club on Paedodontia at work again. Dr. Robert Dent inserted a Class Two amalgam filling in a deciduous tooth; Dr. Robert O'Neil performed a pulpotomy, and Dr. Matthew Waterman did a preparation and took an impression for a space maintainer. Dr. Orville Wright was narrator. As usual, this presentation was well attended, and much appreciated. The Department of Preventive Dentistry of the Provincial Government provided operating chairs and equipment.

The Society Golf Tournament was announced for October 28.

Dr. Edmund V. Street, Associate Professor of Operative Dentistry of the University of California College of Dentistry, addressed the **Vancouver and District Society** on Tuesday afternoon, November 6, on the subject of "The Sweeney Amalgam Technique," using slides to illustrate his remarks. At the end of the afternoon session, a silent film was shown, illustrating the Class Two amalgam filling procedure.

The evening session, following dinner at the Hotel Vancouver, was occupied by another moving picture, with remarks from Dr. Street, on the Class Five amalgam filling.

A number of candidates for membership in the Society were voted on at this meeting, and duly admitted to membership when passed.

BRITISH COLUMBIA

The fall meeting of the **Interior B.C. Dental Association** was held in Penticton on October 27 with 17 members in attendance. It commenced with a dinner meeting in the Prince Charles Hotel followed by a very interesting formal address by Dr. Jack Chambers, Past President of the B.C. Dental Association. The address was based on those things that Dr. Chambers had picked up over the years and had found to be useful to him in his practice—tricks of the trade as it were.

At the conclusion of the dinner all went bowling for an hour, then back to the hotel for the evening meal after which there was an election of officers for 1952 resulting as follows: President, Dr. G. A. Frume, Kamloops; Vice-Pres., Dr. H. L. Coursier, Vernon; Secretary, Dr. M. A. Thompson, Tranquille.

BRITISH COMMONWEALTH NEWS

GREAT BRITAIN

Some Interesting Statistical Data are included in the report of the Management Committee of the Executive Council's Association (England) National Health Service to the fourth annual meeting of the Association held at Eastbourne last week. The number of dentists taking part in the service in England and Wales is shown as 9,135, of whom 8,516 are principals and 619 assistants. The number of claims received during the year for the repair or replacement of dentures which might have been necessitated by lack of care was 6,386. In respect of approximately half these the patients were required to pay the full cost, the remaining cases were divided about equally between those in which the patients were required to pay part of the cost and those in which the whole cost was borne by the Service. The returns show that approximately 97 per cent of the civilian population are on doctors' lists. There were 17,572 doctors, including assistants, on executive council lists and the gross payments made to them totalled nearly £38.5 million, being

greater by £1.4 million than the gross payments made to dentists.

John Miller, M.D.S., reports in the British Dental Journal a condition of **Pigmentation of the Teeth Due to Rhesus Factor**. The child born of a Rhesus-positive father and a Rh-negative mother had severe jaundice at birth and received two blood transfusions. The green pigmentation was intrinsic, remaining after scaling and polishing and appeared to be located in certain definite areas of the teeth, i.e. in those parts of the teeth which are formed at birth, while those parts normally formed after birth were not stained. Thus the crowns of the incisors were stained, being deepest green at the gingival margin. Only the tip of the cusp of the canine was stained, the stained area being sharply demarcated from the area of normal colour. The crown of the first deciduous molar was coloured green in the occlusal two-thirds, whilst that of the second molar was stained in the occlusal half. No pigmentation of the roots was observed in the extracted teeth.

GENERAL NEWS

The School of Public Health and the School of Dentistry of the University of Michigan jointly sponsored a **Periodontal Disease Workshop in Ann Arbor** on September 10-15 inclusive. This marked the third dental workshop held under the auspices of these sponsoring schools as part of their dental in-service training program.

A "faculty" of outstanding authorities was assembled for the occasion and these men served as either essayists or consultants (or both) during the week's program. All aspects of periodontal disease were considered by the nineteen essayists whose presentations were delivered under six general headings, as follows:

1. Behaviour of the Oral Tissues.
2. Aetiological Factors in Periodontal Disease.
3. Infective Gingivitis.
4. Hypertrophic Gingivitis.
5. Advanced Periodontal Disease.
6. Management of Periodontal Disease.

These papers were given principally in the mornings, while in the afternoons, the registrants (some one hundred and ninety in number) were divided into the following five evaluating committees:

1. Behaviour of Gingival and Supporting Tissues.
2. Local Factors in Periodontal Disease.

3. Systemic Factors in Periodontal Disease.

4. Treatment of Periodontal Disease.
5. Prevention of Periodontal Disease.

Each committee was charged with the responsibility of answering a series of questions relative to the particular facet of periodontology with which that committee was concerned. In seeking these answers, the literature provided the principal, if not sole source of information and this source was explored as completely as the limited time would permit. It was the aim of every committee to review the available literature and to attempt to determine therein what was fact, what was contention, what was conjecture and what was fallacy. In what properly had to be an extensive search, the aforementioned time element could not help but be a limiting factor. The results and conclusions in some instances must be governed accordingly.

The chairman and advisory consultants of each committee compiled the final report of that group, taking into account the individual investigatory reading of the various committee members. Each of these final reports was presented to the general assembly for discussion and for approval during the concluding session of the Workshop. It is understood that some formal record of the Workshop's proceedings, (and most certainly of these



Dentists who received the F.I.C.D. Degree at the Annual Convocation of the Canadian Section of the International College of Dentists' Meeting at Ottawa, September 22, 1951: Front Row, left to right—Dr. H. A. Swales, Toronto, Ontario; Dr. A. R. Hurst, Brandon, Manitoba; Dr. Kenneth M. Johnson, Winnipeg, Manitoba. Back Row, left to right—Dr. A. J. Brett, Regina, Saskatchewan; Dr. D. McG. Tanner, Toronto, Ontario; Dr. M. J. MacDonell, Saskatoon, Saskatchewan; Dr. C. L. Strachan, London, Ontario.

reports), will be published at a later date.

In critical summary, one might say that the gathering illustrated how little and at the same time, how much is presently known about periodontology. One might also be impressed by a pertinent observation made at the meeting that perhaps insufficient time was being spent in the study of the "normal" and that too much time was being occupied by the study of the "pathological." When the history of dental caries prevention is reviewed, the sagacity of this observation would seem to be even more apparent. In comparison to the Dental Caries Workshop of 1947, it would appear that the Periodontal Disease Workshop of 1951 had less objective data, fewer statistics and more scanty observations upon which to proceed and upon which a truly concrete assessment might be made. The meeting, even in its formal sessions, was faced with problems of correct clinical and histological interpretation, with problems of insufficient data and with problems of nomenclature, classification and terminology.

Despite these minor criticisms of large-

ly uncontrollable factors (factors which only emphasize the complexities of the subject), the Workshop should make a definite contribution to periodontal philosophy and practice. The directing committee, and notably Dr. Kenneth Easlick and Dr. Donald Kerr, are to be commended for their work in organizing and in conducting this program on such a high plane and for such a large attendance. The perhaps unforeseen large attendance can only be interpreted as a healthy indication of a growing professional interest in periodontology in the United States and Canada. The same magnitude of attendance may also indicate a confidence in the Workshop type of meeting as it is organized, sponsored and conducted by the University of Michigan.

Dean Ernest Charron of the University of Montreal has been elected President of the **International College of Dentists** and Dr. Frank Martin of Toronto has been elected to the Executive Council.

The master's degree was conferred upon Dr. Dwight D. Coons, O.B.E. at the annual convocation of the International

College at Washington. Dr. Coons is Associate Professor in Oral Medicine at the University of Pennsylvania. He was formerly a resident of Hamilton, Ontario.

In the September issue of the *Texas Dental Journal* the editor has this to say, in part, about **Dental Technicians Being Unionized in Texas**. "We have 26 or more dental laboratories in Dallas. Last week cease-work strikes were planned for four of the larger and better known laboratories. Actually the strike carried through for only one laboratory. This stoppage of work delayed considerable service to many dentists in this area, therefore, the unionizing of dental technicians intimately involves dentistry. Show of strength in this instance indicated shrewd, premeditated planning by union officers. Just what the objective may be, of and for the dental technicians, is obscure. The objective of the union officers is clear — more dues income for them.

"The upkeep of the newly formed dental technician union will be reflected in increased costs to the dental profession. We fear too many dental technicians have too little information regarding the great (?) amount of profit accruing to the dentists. They have no conception of the years and years, with mount-

ing expenses, required in education and developing of practice. There has been so much loose chatter about the 'exorbitant fees charged by dentists,' that some technicians would like to squeeze off a share for themselves, and their opportunity seems in hand through unionizing. The old fable of the goose that laid golden eggs should provide substance for thought.

"Dentistry has once again come to a bad spot in the road of progress. Not too many dentists are in a position to attend to their own laboratory work, and continue services to a large clientele. Dental education may recognize that for the future security of dentistry and professional dental services to the public, the overall education of dentists and ancillary aids should be under direction of dentistry."

The total membership in the **American Dental Association** reached 74,577, on August 31. Student membership reached an all-time high of 9,089, with the University of Detroit Dental School, being the first to report one hundred per cent Student Membership for the coming school year. Also included in the total figure were 65,243 fully privileged members, 233 affiliate members, six associate and six honorary members.

IN MEMORIAM

Frederick R. Follick of St. Mary's, Ontario, aged 40, died on September 20.

Dr. Follick was graduated from the Faculty of Dentistry, University of Toronto in 1936 and practised in St. Mary's. He attended the dental service at St. Mary's Public Schools and was a trustee on the Public School Board.

He was a member of the London Dental Society, St. Mary's Golf Club and Vice-President of St. Mary's Tuesday Night Club.

He was a member of the United Church.

Dr. Follick is survived by his widow, mother and three sisters.

John Gourlay of Barrie, Ontario, aged 48, died on September 20.

Dr. Gourlay was graduated from the Faculty of Dentistry, University of Toronto, in 1926. He began practice in Toronto, moving to Bowmanville in 1928 and later to Forest then back to Toronto and finally settled in Barrie in 1936.

He served in the Canadian Dental Corps from 1943 to 1945 with the rank of Captain. He was a member of Barrie Lions Club.

He was a member of the United Church.

Dr. Gourlay is survived by his widow and one daughter.

B. Frank Reade of Moncton, New Brunswick, aged 77, died at Moncton on October 14. Dr. Reade was born in Sackville, New Brunswick. He was graduated from Mount Allison University in 1894 and received his dental degree from Philadelphia Dental College in 1899. He practised his profession in Moncton until 1942 when ill health forced him to retire.

In fraternal organizations he was a member of the Masons, Knights of Pythias and Elks. Dr. Reade belonged to the Christian Science Church. He was a past president of the Moncton Dental Society and a strong supporter of the New Brunswick Dental Society.

Dr. Reade is survived by one son.

James Sim Wallace, M.D., D.Sc., F.D.S.R.C.S. (Eng) F.A.C.D. of England —1869-1951. He was noted for his work on the prevention of dental disease. He was one of the first to receive an Honorary Fellowship in the Royal College of Surgeons.

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La Déontologie,*

facteur essentiel de succès dans la pratique de notre art

par J. GASTON LAJOIE, D.D.S., Montréal

A plusieurs reprises, un bon nombre de confrères ont exprimé le désir d'entendre parler de déontologie; si vous le voulez bien, nous étudierons ensemble la conduite que nous et nos prédécesseurs avons suivie depuis environ quarante ans, afin de mieux juger ses répercussions dans nos cabinets à l'heure actuelle. A la lumière de cette courte étude, nous tirerons les conclusions appropriées.

La déontologie ne consiste pas uniquement en comptabilité, comme on pourrait le croire, mais embrasse aussi une organisation, un système d'économie, que nous permette de pratiquer notre art avec plus de facilité, de confort, et d'assurance; nous nous limiterons surtout à ce second aspect, puisque la tenue des livres regarde plus particulièrement l'assistante ou le comptable.

C'est, à mon avis, une fausse conception de l'étiquette professionnelle de penser qu'un confrère s'abaisse quand il parle d'honoraires à un patient ou qu'il évalue ses services.

Cela me fait penser à certains parents, qui, autrefois, ne mettaient pas leurs enfants au courant des faits de la vie.

C'est un péché, disait-on, de parler de ces choses; ils préféraient porter la honte des accidents regrettables dus à l'ignorance de ces pauvres innocents, justement causée par leurs scrupules et leur prétendu respect humain; c'est peut-être pour cela

que personne ne veut parler du petit péché qu'est la déontologie, encore moins de la mettre en pratique.

Nous ne pouvons pas nous astreindre uniquement à nos opérations dentaires. Pour faire face à nos responsabilités et mener à bien notre pratique, il faut d'abord posséder sa science, cultiver une personnalité intéressante, utiliser un local attrayant, une salle d'opération hygiénique et propre, munie d'une instrumentation qui réponde à nos besoins.

Nous devons assister régulièrement aux séances de nos sociétés d'études, aux cours post-scolaires, aux différents congrès pour nous tenir à la page et être en mesure de répondre aux exigences de l'évolution et de l'avancement de la profession.

Connaître sa science et avoir une personnalité sont deux qualités qui marchent de pair; quand un dentiste possède assez son art pour faire un diagnostic sûr il est convaincu que son assurance a beaucoup à voir avec sa personnalité; ce qui m'amène à vous dire — et vous le savez aussi bien que moi — que lorsqu'un patient vient vous consulter, il doit avoir une idée plus ou moins vraie de son état.

Si nous exécutons simplement ce qu'il demande, il retournera chez lui guéri de son malaise, mais avec l'impression que son dentiste ne semble guère intéressé. Si au contraire, après l'avoir soulagé, nous faisons un examen sérieux et complet de

*Conférence prononcée au Congrès de la Société Dentaire de Montréal, le 11er juin 1951.

sa bouche, en lui expliquant pourquoi il a besoin de tel traitement, nous aurons fait servir notre personnalité et notre science pour capter sa confiance.

De ce fait, nous aurons la satisfaction de prodiguer des services, dont nous serons fiers, qui auront une répercussion plus considérable que toute réclame commerciale et qui nous vaudront une rémunération légitime.

Et maintenant, que dire de notre local, de notre clinique? Ils sont le reflet de notre personnalité. Une personne avertie peut percevoir le caractère du dentiste dès qu'elle entre chez lui; la disposition des pièces, la décoration intérieure, l'aménagement des locaux, du hall d'entrée à la clinique, tout est un indice de la personnalité de l'occupant.

Une porte d'entrée entr'ouverte paraît invitante au premier abord . . . peut-être pour ceux qui attendent leur tramway ou qui désirent se défaire de leurs mégots ou de leurs vieux journaux. Quand on y lit: "Sonnez et entrez," cela ne veut-il pas dire: "Asseyez-vous, s'il y a une place libre; dans quarante-cinq minutes, je vous dirai que je vous verrai dans une demi-heure." Car, dans ce cas, le livre de rendez-vous n'est pas plus à l'ordre que la porte et tout se fait à la bonne franquette.

Je n'ai pas l'intention de vous imposer un modèle de salle d'attente. Chacun de nous a ses idées là-dessus et elle est l'expression de ses goûts personnels. Elle doit être propre, élégante, attrayante sans apparat, gaie sans rococo. Les revues ou magazines seront au niveau intellectuel de la clientèle et de parution récente. Ce n'est pas parce que la "Petite Illustration" est une revue de France et qu'elle n'a pas été publiée depuis la Guerre qu'il faille en conserver précieusement tous les numéros de 1930 à 1939 pour en encombrer la salle d'attente.

J'allais oublier notre musée . . . Pouvez-vous me dire quel intérêt peut prendre un patient à lire les diplômes de baccalauréat et de doctorat en chirurgie dentaire, obtenus en telle année? Cet étalage d'antiquaire est-il d'abord approuvé par le Collège des Chirurgiens-Dentistes? Le patient est surtout intéressé à savoir si le dentiste pourra le traiter convenablement.

Ces cadres, si peu décoratifs, peuvent-être remplacés avec avantage par des "slogans," rédigés avec esprit et humour, appuyant sur des données d'hygiène dentaire reconnues. L'éducation dentaire du public y gagnera et nous recevrons dans notre cabinet un patient plus calme et plus renseigné.

Notre clinique, je le répète, doit refléter la propreté, et l'ordre. L'instrumentation, l'appareillage, la tenue du dentiste et de son assistante doit être impeccable et un symbole d'hygiène. Notre cabinet est-il des mieux équipés et des plus modernes? Ce n'est pas là une raison d'étaler tout l'arsenal d'appareils compliqués. Nos patients en seront mal à l'aise et craintifs. Soyons simples; montrons-nous tels que nous sommes: propres, honnêtes, naturels. Evitons l'effet tapageur.

La déontologie, c'est le sens pratique appliqué à l'exercice de notre art. Il est impossible de donner un rendement consciencieux à notre clientèle, en n'envisageant que l'aspect technique de nos traitements; de même, un dentiste faillirait à son rôle en faisant un commerce sous le couvert d'un titre professionnel.

A la fin de nos études, nous sommes portés à croire qu'une clientèle empressée accourra nous consulter, dès que nous aurons apposé notre nom à notre porte. Hélas, ceux qui ont l'expérience d'un début en clientèle savent qu'il n'en est pas ainsi. Durant notre stage à l'Université, on nous a enseigné les bases de notre art; son exercice nous en a montré les applications.

L'exercice de notre profession a deux buts: rendre service à la population et se rendre service à soi. Se désintéresser d'une rémunération convenable nous accule vite à une situation précaire en face de nos obligations familiales et sociales. D'un autre côté, n'envisager que l'aspect pécuniaire en refoulant sa conscience et en négligeant son travail constituerait un désastre pour les patients, qui se confient à nous et pour la réputation de notre groupement professionnel.

"In medio stat virtus." L'attitude idéale consiste à joindre la compétence thérapeutique au sens des affaires. Cette com-

binaison établit un équilibre raisonnable entre les deux buts proposés; elle leur donne à tous les deux leur importance respective.

Pour être des praticiens effectifs, il nous faut étudier et nous tenir à la page; il nous faut nous récréer et nous détendre en vue d'un meilleur rendement. Notre régime de vie doit prévoir du temps pour s'évader, tous les jours, de notre bureau, pour le sport et la vie sociale. L'un nous garde en santé, l'autre nous crée des amis.

Noblesse oblige: le professionnel se doit de fréquenter certains endroits, participer à certaines organisations, s'occuper de mouvements qui relèvent de ses responsabilités; par ailleurs, la bonne réputation d'un professionnel exige une conduite exemplaire, qui l'obligera à s'abstenir de la fréquentation d'autres milieux et de la participation à d'autres entreprises.

Nos actes doivent être pesés et raisonnés à l'avance pour mener une existence conforme à la dignité de notre profession et à notre titre de dirigeant de la société. L'attitude du public envers le professionnel varie selon le rôle joué par celui-ci; un professionnel entre-t-il dans un établissement commercial, et le reconnaît-on, que tout de go on l'accable d'une courtoisie quelque peu trop empressée; on feint que la maison reçoit son meilleur client. On le comble de prévenances; on lui offre de le servir par téléphone, à l'avenir; et, gagnant ainsi sa confiance et lui enlevant tout contrôle, on majore ses notes de 10% et même de 20%.

Un dentiste veut-il faire des placements dans une entreprise? Veut-il emprunter pour stabiliser ses économies? On entreprend sur son compte des enquêtes serrées; on scrute ses garanties avant de l'accepter comme partenaire dans une industrie ou un commerce. On met en doute les talents pécuniaires d'un professionnel.

Comme vous le voyez, l'attitude du public vis-à-vis un professionnel est extrêmement variable. Comme client, on lui accorde toute confiance; comme actionnaire, on se méfie de lui. Ces deux opinions paraissent inconciliables.

Je ne considère pas la dentisterie comme un moyen de s'enrichir, mais comme un art qui procure une moyenne aisance à notre famille. Il serait opportun de passer en revue les moyens à notre disposition pour arriver à ce résultat.

Voyons ceux que nous ont légués nos prédécesseurs. Il faut remonter avant 1890 pour trouver une existence à l'art dentaire dans le Québec, puisqu'à cette époque quelques bureaux existaient déjà à Montréal, à Québec et dans d'autres centres importants de la province. Ces pionniers furent assistés avec les années par de nouveaux confrères dans leur lutte contre le ravage des maladies dentaires chez une population qui prenait graduellement conscience des avantages de cette science nouvelle.

Les praticiens de cette période avaient à leur disposition des méthodes scientifiques assez rudimentaires; aussi la dentisterie préventive était-elle méconnue et les activités du dentiste se résumaient à l'extraction des dents et à la prothèse. Cet état de choses s'explique par les deux facteurs suivants: l'ignorance du public des choses d'hygiène dentaire et la pénurie de dentistes; ceux-ci devaient se donner aux ennuis les plus urgents. Presque toutes les bouches étaient dans un état tel que les moyens les plus simples devaient être utilisés pour enrayer les infections. L'extraction totale devenait la règle. Le dentiste, débordé de travail, soulageait uniquement la douleur; l'exodontie tenait la plus grande place dans ses traitements; peu d'obturations, mais beaucoup de dentiers. Le dentiste de ce temps ne trouvait pas le temps nécessaire à l'éducation du public en matière d'hygiène dentaire, si nécessaire chez les enfants. Car l'hygiène dentaire, dans le bas âge, est la condition primordiale pour une denture saine chez l'adulte.

Il ne faudrait tout de même pas jeter la pierre à ces pionniers, qui, avec les moyens rudimentaires dont ils disposaient, ont défriché la voie que nous suivons aujourd'hui; grâce à eux, nous exécutons notre besogne dans des conditions extrêmement plus clémentes que celles qui ont été leur partage.

Il fallait que quelqu'un fasse le dé-

frichage et nous n'avons qu'à remercier ceux qui nous ont légué le fruit d'un travail infiniment précieux et sans lequel notre art ne serait pas ce qu'il est aujourd'hui. Je ferais peut-être sourire les plus jeunes en leur décrivant un cabinet dentaire d'il y a cinquante ans: tentures de velour, meubles d'acajou ou de noyer, fauteuil capitonné de peluche, (la têtère comprise) tapis épais, secrétaire encombré de fiches et de notes, coffre-fort pour protéger l'or et la porcelaine, divan de cuir, etc, etc . . . Dans ce cadre — maintenant désuet—ces ouvriers de la première heure ont travaillé ferme à l'avancement de la profession. Ce soin apporté à aplanir la route mérite que nous nous montrions dignes de l'héritage qu'ils nous ont légué.

Tous n'entrent pas à l'Université avec le même idéal; quelques-uns y commencent leurs études avec indifférence, d'autres pour faire fortune. Un examen de conscience sur les motifs du choix de la carrière de dentiste donnerait la clef de bien des problèmes individuels et expliquerait les résultats d'une vie de pratique. Les boiseries pâles et les tuiles de caoutchouc ont remplacé le velour et le tapis moelleux d'antan; l'évolution ne se serait-elle produite que dans le décor et non dans le rendement et l'objet même de la dentisterie? Malgré nos cliniques modernes, serions-nous restés dans un autre siècle en ce qui concerne la science et la déontologie? La répartition des honoraires aurait-elle gardé la même base qu'au temps de la peluche?

Dans la plupart des bureaux, les honoraires ont augmenté avec le coût de la vie; mais leur proportion en rapport avec le travail qu'ils représentent n'a pas varié. Ainsi, la prothèse tient généralement le premier rang tandis que d'autres opérations, qui exigent pourtant un travail tout aussi précis et parfois beaucoup plus long ne sont pas rétribués à leur valeur. Malheureusement, nous adoptons trop souvent une ligne de conduite toute faite et connue des patients en faveur du moindre effort et du gain plus facile. Il nous arrive, hélas, de céder aux désirs du patient, même quand ses suggestions ne sont pas à son avantage. Cette mollesse naît de la peur de contredire ou de perdre

son client. L'examen des bouches nous révèle, tous les jours, des négligences dans le domaine de la dentisterie préventive et restaurative. Nos attributions nous confèrent le devoir d'éduquer le public en matière de santé buccale. Qu'avons-nous fait à date dans ce but? Lui avons-nous montré tout l'intérêt que nos portons à sa santé ou lui avons-nous fait entrevoir trop d'intérêt notre bourse?

Nos confrères d'autrefois avaient des motifs plausibles de n'accomplir que le plus urgent et ils ne pouvaient faire l'impossible. Mais de nos jours, ces raisons n'existent pas; seules notre négligence et notre paresse nous retiennent au stage primitif de la dentisterie à bien des points de vue. Ceux qui ont connu l'organisation du Ministère des Affaires des Vétérans, appréhendent l'étatisation de notre profession . . . Le système, que nous pouvons présentement opposer aux théories socialistes, tant décriées, leur est-il tellement supérieure?

D'un autre côté, la pratique illégale n'est-elle pas la fille de certains de nos abus? Une négligence à prôner la conservation des dents et une apathie à faire apprécier à nos patients la valeur de nos travaux de restauration en ont dirigé une bonne proportion directement chez le technicien . . . Le public, ainsi éduqué, se rendrait compte de la compétence des techniciens au point de vue mécanique seulement et de l'art du dentiste dans les traitements qui doivent s'exécuter en bouche.

Avant de terminer cet examen de conscience, permettez-moi de traiter un dernier point, la concurrence . . . C'est-là le motif de bien des mesquineries.

Parmi ceux, qui pèchent contre l'éthique professionnelle, mentionnons ceux qui veulent attirer à leur cabinet toute la clientèle d'un quartier. Pour eux tous les moyens sont bons et le plus utilisé est sans contredit la réduction des honoraires d'une façon ridicule; cette guerre des prix entraîne forcément des services de qualité inférieure. D'autres emploient toutes les formes possibles de publicité; pourtant, les règlements du Collège sont bien connus et sans équivoque possible. Les plaques extérieures sont prohibées, il est

vrai, mais on peut si facilement obvier à cette défense: on peut faire de la fenêtre éclairée de notre clinique un écran lumineux et travailler ainsi sous les yeux de toute la rue ! Quelle belle réclame, qui soit dit en passant, est d'un goût bien douteux !

Dans un autre domaine, on vante au patient le produit commercial plutôt que de lui expliquer la valeur et la nature de nos services. Il y a aussi ce travers grave, qui consiste à critiquer le travail d'un confrère devant le patient; cette façon de faire crée une impression des plus défavorables envers la profession toute entière. La concurrence devrait être, au contraire, une émulation souhaitable, qui produise les meilleurs effets; cette concurrence devrait améliorer la valeur de nos services et nous pousser à la perfection. Les efforts de chacun s'unissent pour favoriser le succès collectif. Il faut envisager ses devoirs envers les patients, en tant que serviteurs de l'humanité souffrante, envers la profession, en tant que membres actifs d'une société organisée et envers nous-mêmes, comme honnêtes hommes.

Ces considérations nous amènent à des conclusions plus ou moins encourageantes. L'appréciation du public pour la profession dentaire est celle-là même que nous lui avons dictée. Nous sommes soumis à un état de dépendance vis-à-vis notre clientèle, par notre propre faute. Les relations qui existent entre patients et dentistes nous rappellent ces ménages où l'épouse mène la barque. Pour éviter une révolution dans la mentalité du public et des praticiens au sujet des choses dentaires, nous nous plions aux désirs de nos malades, au lieu de s'affirmer par nos connaissances et notre expérience. Et dans cette attitude, faite de lâcheté, se mêlent parfois des motifs encore moins élevés; les conséquences sont plus désastreuses pour tous. Ceux, qui se sont dirigés vers la profession de dentiste par indifférence, auraient dû devenir fonctionnaires; ceux qui ont voulu faire de leur profession un commerce auraient dû se lancer dans l'industrie. Cette orientation différente aurait réglé plusieurs problèmes.

Le dentiste, qui n'envisage que son avantage personnel, en négligeant le bien-être de ses patients et le progrès de sa profession, contribue à la baisse du rendement thérapeutique de son art et situe ses confrères dans une position fautive dans leurs rapports avec leur clientèle. C'est endosser ses responsabilités et faire oeuvre de charité à l'égard des confrères que de songer constamment aux conséquences de sa conduite et attacher de l'importance aux opinions du public au sujet de la profession dentaire.

Un mauvais départ en pratique signifie souvent une carrière gâchée. La routine prépare des échecs futurs plus lourds de conséquences qu'un insuccès immédiat. Un cabinet conduit avec indifférence veut dire une pratique exercée sans ordre, sans méthode, sans enthousiasme; l'opportunisme s'y installe bientôt et une carrière promise au succès prend la route qui mène au fiasco.

Plusieurs restent stationnaires par leur manque d'intérêt à l'étude des nouvelles théories et des nouvelles techniques. Permettez-moi de vous citer un exemple de cette apathie à l'amélioration de notre savoir; en 1945, un dentiste, qui comptait pourtant une vingtaine d'années de pratique, avouait voir pour la première fois un appareil d'orthodontie. Le fait est véridique. Les conférences scientifiques présentées à Montréal, groupent en moyenne une quarantaine de dentistes, tous les mois; mais les assemblées, qui sont convoquées pour la discussion des droits professionnels ou pour la sauvegarde des intérêts pécuniaires de la profession attirent des foules, qui se chiffrent parfois à cent-cinquante confrères et plus. Voici une preuve que le patient ne reçoit pas chez son dentiste les services auxquels il est en droit de s'attendre. Le praticien qui opère avec un tel esprit n'a aucun souci d'améliorer sa compétence. On constate, avec regret, que certains d'entre-nous, dans un but de lucre, et souvent pour gagner leur pitance, conspirent en sous-main avec des techniciens dans l'exercice illégal, en échangeant leurs prérogatives professionnelles contre un pourcentage ou une commission fixée à l'avance.

Je suis pessimiste, me direz-vous, et vous avez raison. Mais heureusement, les observations que je vous rapporte, ne concernent pas la majorité des cabinets dentaires. Cependant, ces remarques touchent des points à corriger pour faciliter notre tâche et rendre plus honnêtes nos relations avec le public.

Laissons ces considérations décourageantes pour étudier d'une façon plus positive les problèmes de déontologie dentaire. Une administration pratique des affaires repose sur l'apport de trois facteurs: le rôle du dentiste, le travail de l'assistante et la coopération de la clientèle. Ce rouage doit fonctionner sans heurt, comme un moteur bien graissé actionne toutes ses parties au bénéfice de l'ensemble.

Il y a deux méthodes de percevoir les honoraires: comptant ou à termes. Les besoins et les habitudes de notre clientèle nous porteront à choisir l'une ou l'autre de ces méthodes. Il est évidemment impossible de se borner uniquement à un de ces deux procédés. Dans certains bureaux, où la régie est d'exiger le paiement des services "au comptant," il arrivera pourtant qu'on fasse crédit à certaines institutions dont l'organisation financière ne prévoit que des déboursés mensuels, comme c'est le cas pour les communautés religieuses. Par ailleurs, les bureaux, qui tolèrent les rentrées échelonnées, ne refuseront certainement pas un client qui désire régler séance tenante.

Il arrive qu'on soit libre de choisir le mode des rentrées et que la clientèle se plie au système imposé; il faut alors étudier les avantages et les inconvénients des deux systèmes.

Les paiements "à termes" attirent plus facilement les clients, car alors, le dentiste semble leur faire plus volontiers confiance et n'indispose pas les susceptibles. C'est un moyen indéniable de faire meilleure figure, de créer l'impression d'un homme conciliant.

Toutefois, ces patients n'ayant pas à déboursier immédiatement sont plus exigeants et apprécient moins la valeur de nos services. Le praticien, de son côté, voit se compliquer sa comptabilité et doit faire face, sans apport immédiat, aux

notes des fournisseurs et des laboratoires.

Le cabinet devient vite achalandé et le dentiste, travaillant sans relâche du matin au soir, a l'impression de faire de bonnes affaires; mais ses clients, qui régleront leur note plus tard, par petits versements, exploitent à fond leur opérateur et accaparent du temps et des soins qui profiteraient d'avantage à des gens plus conciliants et plus empressés. Ce genre d'organisation permet difficilement une sélection parmi les patients et suppose une tenue de livres onéreuse et coûteuse.

L'autre système, où les clients paient pour les services sur le champ, présente aussi quelques inconvénients. Ce client est en droit de se demander pourquoi il aurait une confiance en nous plus grande que celle que nous avons en lui. Les individus aux petits revenus seront portés à ne faire exécuter que le travail urgent et à négliger leurs dents jusqu'au moment où ils se décideront à aller où on leur fait crédit.

Le praticien, qui exige tout de suite le paiement de ses honoraires risque de passer pour un commerçant déguisé en professionnel.

Les deux systèmes entraînent souvent des mises au point pénibles, seul le moment en diffère. Si le contrat est payable au comptant, la discussion est plus brève; c'est une affaire à prendre ou à laisser. Un contrat à crédit, au contraire, entraîne des redditions de comptes répétées et crée souvent des complications ennuyeuses. La question des honoraires est bien délicate et elle est souvent responsable de la perte de bons patients, surtout dans le système "à crédit," car quand le patient est soulagé, il se soucie peu de ses obligations.

La fixation des honoraires doit se faire avant de commencer le travail; il faut que les deux parties s'entendent clairement sur la nature du travail et sur son coût. Il faut aussi prévoir les traitements à donner plus tard, comme dans le cas de dentiers immédiats. Le dentiste et son client doivent s'entendre sur la réfection de ces pièces, comme sur la confection des premiers appareils. Il est bon parfois d'obtenir la signature du patient. On est porté à oublier des promesses, mais généralement on respecte sa signature. Cette

méthode empêche le dentiste d'accumuler des notes chez le technicien et lui permet de toucher l'argent qui lui est dû.

En conclusion, permettez-moi de vous dire que je préfère le règlement "comptant" des honoraires, parce qu'il entraîne moins d'ennuis et qu'il est susceptible de moins de complications.

Un cabinet moyen devrait être constitué de deux cliniques pourvue chacune d'un équipement et d'une instrumentation complets; une de ces cliniques est destinée à la dentisterie opératoire, l'autre à la chirurgie et la prothèse. Cette organisation a le désavantage de laisser souvent inoccupée une salle d'opération.

Le capital est alors improductif. Les patients se présentent au hasard et la dentisterie opératoire ne vient pas nécessairement de pair avec la prothèse ou la chirurgie.

Un tel bureau doit être dirigé par une secrétaire et une assistante préposée à l'entretien des cliniques. La secrétaire doit être initiée à son travail par son employeur lui-même. L'expérience prise dans un autre cabinet n'est pas nécessairement utile dans notre propre bureau. La mise sur pied de cours universitaires pour les hygiénistes dentaires nous sera d'un grand secours dans ce domaine. On doit encourager les assistantes à suivre les activités de leurs sociétés et à accumuler des connaissances sur leurs fonctions.

Une assistante compétente facilite énormément le travail du dentiste. Celui-ci peut s'occuper uniquement d'examiner son patient, d'élaborer le contrat et de procéder à ses traitements. Tout le reste est réglé par l'assistante. Mentionnons en passant la nécessité pour le dentiste de soulager d'abord la souffrance de son patient et ensuite de traiter les dents postérieures; car, certaines personnes se soucient peu de ces dents pour attacher beaucoup d'importance à l'esthétique des dents antérieures. Le dentiste, qui met en ordre les dents antérieures, au tout début, risque de ne pas revoir son patient, à son détriment personnel et à celui des dents postérieures. Le besogne de l'assistante est assez absorbante. Son rôle peut être divisé en trois parties: dans la clinique, entre les séances de traitement,

elle doit s'occuper de la propreté générale, de l'hygiène, de l'ordre et de la stérilisation. Durant les séances, elle réconforte le patient et assiste l'opérateur dans ses fonctions. Familière avec la terminologie dentaire, elle annote la feuille de diagnostic et inscrit les clauses du contrat. Quand la séance touche à sa fin et qu'elle peut se retirer, elle installera un nouveau patient dans la seconde clinique, préparera le dossier et l'instrumentation et fera part au dentiste des développements récents de ce cas.

À la fin de la séance, elle fixe un nouveau rendez-vous au patient en répartissant le travail d'une façon convenable; elle peut offrir au patient de lui rappeler son engagement par téléphone. La perception des honoraires pour cette séance vient ensuite. L'assistante est chargée de la comptabilité et de la perception des honoraires, selon les arrangements qui ont été arrêtés.

L'assistante doit veiller au téléphone; elle donne tous les renseignements demandés, mais se garde de mentionner des prix, car cette question est subjective et extrêmement variable. Dans le cas de discussion avec un patient, le patron ne doit être appelé qu'en toute dernière ressource. Elle doit s'enquérir auprès des patients des raisons qui motivent une absence lors d'un rendez-vous.

L'assistante recevra dans le bureau particulier du dentiste les vendeurs où ils seront plus à l'aise pour discuter les questions de produits et de commandes. Ces entrevues ne doivent jamais se tenir dans la salle d'attente, en présence des patients; ceux-ci n'ont pas à être mis au courant des noms commerciaux et des prix des marchandises, dont se sert le dentiste; ces détails ne concernent pas la clientèle. Ainsi nous éliminerons ces patients que se rendent dans les bureaux pour marchander les pièces de prothèse par leur marque de commerce. Il faut que le public se rende compte que le dentiste n'est pas un commerçant de marchandises, mais un professionnel qui fournit des services. Enfin, l'assistante groupera, autant que possible, tous les cas d'anesthésie générale à une même période de la journée ou de la semaine; elle mettra le patient au courant

des précautions à prendre avant l'intervention; elle percevra d'avance les honoraires de l'anesthésiste pour s'assurer de la présence des patients lors de la visite de l'anesthésiste et pour éviter une perte de temps au bureau.

Pour terminer, je suis persuadé qu'une science à date, un travail honnête, le res-

pect de ses confrères, de ses patients et de soi-même constituent la base du succès en chirurgie-dentaire.

Un idéal haut placé, mais réellement vécu, satisfait son homme et par ricochet contribue à l'avancement de la profession.

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Nouvelles des Sociétés

Société Dentaire de Montréal

Séance d'octobre

Le conférencier à la réunion régulière du 16 octobre dernier était le docteur Armand Genest, D.D.S., M.D., chirurgien à l'Hôtel-Dieu. Le docteur Genest fut présenté à l'auditoire par le docteur Victorien Dubé, qui fit un relevé des treize années consécutives de notre confrère en médecine, en dentisterie et en chirurgie buccale et générale. Le sujet était: "Gref-fe osseuse en vue d'une prothèse complète et satisfaisante."

Voici un bref résumé de la conférence: "La résorption alvéolaire complète présente des difficultés insurmontables en prothèse complète. Un seul remède, de nature chirurgicale, était connu à date: l'opération de Kazanjian. Cette dernière consiste à creuser le sillon buccal au bistouri et à tapisser la brèche d'une greffe cutanée. Le docteur Genest démontra les raisons de l'insuccès de cette intervention. Ce court préambule amena l'auteur à exposer sa solution au problème. Rien de plus logique que de reconstruire le procès alvéolaire au moyen d'une greffe osseuse, surtout par la technique aussi simple qu'il démontra. Celle-ci consiste à ouvrir le muco-périoste par deux petites incisions bucco-linguales, au niveau des canines. Le périoste est ensuite décollé sur les deux faces de la branche horizontale, au maxillaire inférieur. Deux morceaux de greffon costal sont insérés en verticale sur la crête du maxillaire. Quelques cas suivis depuis deux ans témoignent de l'absence de résorption osseuse du greffon, lequel ré-

siste bien aux forces de la mastication. Les empreintes des nouvelles arcades dentaires bien rehaussées sont obtenues trois mois après l'opération."

La conférence était accompagnée de projections, et fut suivie d'une intéressante discussion. Le docteur Gérard de-Montigny remercia le conférencier et souligna la fierté que nous avons de voir l'un des nôtres se signaler particulièrement dans le domaine de l'innovation en chirurgie buccale, car le docteur Genest est le pionnier de cette nouvelle technique.

Les membres de la Société dentaire des Laurentides avaient spécialement été invités à cette séance. Étaient présents: les docteurs Roger Dumais, président, et Florent Terriault, secrétaire-trésorier.

Séance de novembre

La séance de novembre eût lieu, le 6, à la faculté de Chirurgie dentaire de l'Université de Montréal. A cette occasion, le Dr LeRoy M. Ennis, professeur de radiologie dentaire à l'Université de Pennsylvania, et président de l'Association Dentaire Américaine, était le conférencier invité.

Le Dr Ennis avait choisi comme thème: "Interprétation des pellicules radiologiques". Il exposa son sujet en faisant défiler devant les yeux d'une assistance particulièrement nombreuse, des films représentant les formes les plus fréquentes des pathologies dentaires et osseuses. Le Dr Ennis insista tout particulièrement sur les dangers des émanations radiologiques pour les mains du praticien

et mis en garde son auditoire contre cette habitude de tenir les films dans la bouche des patients.

Cette soirée, où avaient été invités les membres des Sociétés-soeurs de Montréal, a été des plus réussies; au-delà de cent dentistes assistaient à cette conférence où furent exposés les principes de la radiologie dentaire moderne.

Le Dr C. A. Durand, président de la Société, présenta l'auditoire au Dr Ennis et le Dr E. Charron présenta le conférencier à l'assistance; le Dr Charron, au cours de ses paroles a tenu à remercier officiellement l'Association Dentaire Américaine, par son président, le Dr Ennis, pour tous les services qu'elle a rendus à la dentisterie canadienne.

Le Dr D. P. Mowry, doyen de la faculté-dentaire du McGill, remercia le conférencier en soulignant l'importance du rôle joué par la radiologie dans le domaine dentaire. La soirée se termina par la présentation au Dr Ennis d'une sculpture sur bois, de Bourgault, représentant une scène typiquement canadienne.

Cette séance de novembre restera dans les annales de la Société Dentaire de Montréal comme une des plus intéressantes et instructives.

Elle a été rendue possible grâce à l'amabilité du Dr Ernest Charron et au docteur Gérard de Montigny, qui a facilité les arrangements nécessaires.

Partie d'huîtres de la Société Dentaire

Cette réunion sociale eût lieu, le 8 novembre, dans la salle Parent, à Rosemont. Quelques deux cents convives, dentistes, techniciens et vendeurs s'étaient réunis pour ces agapes annuelles. Un entrain de bon aloi a régné durant toute la soirée, où des prix de présence variés et substantiels ont été tirés au sort.

Cette fête aux huîtres était sous la présidence du Dr C. A. Durand et avait été organisée par le Dr J. Gaston Lajoie. Il est à souligner que cette organisation est mise sur pied pour créer des fonds à la Société dans le but d'inviter des conférenciers à transmettre aux membres des notions scientifiques nouvelles.

Société Dentaire du Saguenay

Journée d'études à Chicoutimi

La Société Dentaire du Saguenay tenait le 6 octobre dernier sa huitième journée d'étude annuelle. Le docteur J. A. Desbiens de Chicoutimi, le président, avait réuni tous les confrères de la région et, avec la coopération de tous, fit de cette journée un franc succès tant au point de vue scientifique que social.

Le docteur Ephrem Vinet, président du Collège, rehaussait de sa présence la réunion. Il était accompagné du docteur Denis Forest, le registraire. Les conférenciers étaient le docteur Jacques Demers de Montréal, et le docteur Jean Nadeau, chef de Prothèse à l'Université de Montréal. Les docteurs Vinet et Forest donnèrent des renseignements d'intérêt général sur l'administration et les règlements du Collège des Chirurgiens-Dentistes.

Plusieurs membres de la Société Dentaire de Montréal s'étaient rendus à ce congrès avec leurs épouses; outre les conférenciers déjà nommés, mentionnons les docteurs Claude Béique Nadeau, R. E. Lussier, Alphonse Plessis-Belair, Louis Lépine, J. Patenaude, Roger Charette, et les docteurs G. DeBilly et Paul Simard de Québec.

Nous réitérons nos félicitations qu'adressait le docteur Denis Forest aux membres de la Société Dentaire du Saguenay et du Lac St-Jean pour leur vivante organisation et le bel accueil qu'ils savent faire aux visiteurs.

Société Dentaire des Laurentides

Tournoi de golf à Lachute

Jeudi le 18 octobre dernier, la Société Dentaire des Laurentides avait son tournoi de Golf annuel. Ce fut une autre réussite dont nous félicitons notre Société-soeur dans son président, le docteur Roger Dumais et son secrétaire et organisateur du tournoi, le docteur Florent Terriault.

Outre les membres de la Société des Laurentides et plusieurs médecins de la région, de nombreux confrères étaient accourus se délasser par une journée splendide sur le magnifique parcours du Club de Lachute.

Parmi la représentation de Montréal, nous remarquons les docteurs: Charles A. Durand, président de la Société Dentaire de Montréal, Roland Brossard, N. Petit, Vincent Tremblay, Victorien Dubé, Jean Migneault, J. Béland, Antoine Raymond, Jacques Demers, Alphonse Plessis-

Belair, Louis Lépine, Roger Charette, A. Surprenant et plusieurs autres.

Les épouses des golfeurs agrémentaient la fête de leur présence et quelques unes prirent part au tournoi.

A la fin du souper servi dans la salle de danse du club, plusieurs prix furent distribués aux champions.

Note de la rédaction

Nous invitons les Sociétés dentaires de langue française à nous faire parvenir des nouvelles.

Ces pages sont consacrées aux activités des Sociétés.

NOUVELLES DE L'ASSOCIATION

Rapport du Comité des Recherches

"Récemment, l'Association Dentaire Canadienne a énoncé une politique au sujet des développements des services dentaires appropriés pour la population du Canada; cette politique fait ressortir deux aspects importants de cette question.

1. Prévention des maladies dentaires.

Il faut que les besoins extraordinaires des traitements, tel qu'ils existent à l'heure actuelle, diminuent considérablement grâce à la prévention.

2. Essor donné aux recherches.

La prévention donnera son plein rendement en autant qu'on connaîtra mieux l'étiologie des maladies dentaires et gingivales. Seule la recherche permettra de faire avancer cette connaissance.

La profession dentaire canadienne peut donner l'exemple au monde dans la recherche et la prévention des maladies dentaires. L'expérience de l'Angleterre et d'autres pays nous prouve que les dentistes ne peuvent, par les traitements seulement, résoudre le problème des maladies dentaires. Le public et ses dirigeants ont le droit d'exiger que nous fassions un effort considérable pour doter tous les Canadiens d'un état de santé buccale convenable; il y a d'autres raisons pour ce

faire, mais le public et les hommes politiques doivent se rendre compte que nous cherchons ce but. L'encouragement prodigué aux recherches doit être la principale préoccupation d'une Association nationale progressive et il faut le faire savoir."

La province d'Alberta nomme un nouveau représentant

Le Dr R. R. McIntyre (de Calgary) vient d'être nommé le délégué officiel de l'Alberta au Bureau des Gouverneurs. Le Dr McIntyre possède une longue expérience dans le domaine de l'organisation dentaire; il fut président, durant deux ans, du Comité d'Hygiène dentaire publique de l'Association Dentaire Canadienne et il est actuellement président de la Section d'Orthodontie. Il succède au Dr Baden Powell.

La fraternité Alpha Omega obtient son incorporation

La livraison du 8 septembre 1951 de la Gazette du Canada rapporte que le Secrétaire d'Etat vient d'autoriser l'incorporation de la fraternité Alpha Omega, sous la loi des Compagnies, 1934. Les Drs Harry Myer Jolley, Louis Benjamin Oiffer et John Albert Sherman, tous de Toronto, Ontario, sont les parrains du bill.



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L'ANNEE S'ACHEVE . . .

A l'occasion du début de l'année 1952, permettez au Comité de Rédaction de la section française du Journal de l'Association Dentaire Canadienne de vous offrir ses meilleurs vœux de Bonne et Heureuse Année.

Avant de s'engager dans une nouvelle étape de son existence, il est bon de se retourner en arrière et de faire un inventaire des réalisations de la profession dentaire de langue française, au Canada, durant l'année qui s'achève.

Une constatation des plus heureuses consiste dans l'intérêt sans cesse grandissant des dentistes de la province de Québec pour les choses de l'Association. Le Président et le secrétaire de l'A.D.C. ont fait une tournée des centres dentaires de la province, en octobre et ils ont constaté que les dentistes du Québec étaient curieux, plus que jamais, de connaître la politique de l'Association sur plusieurs questions qui concernent tous les dentistes de notre pays. Cette curiosité légitime est un signe révélateur d'intérêt pour les affaires de l'Association et de bon augure pour nos confrères, pour l'Association et pour l'unité nationale.

Un autre pas dans la bonne direction est la décision des autorités de la faculté dentaire de l'Université de Montréal de hausser les exigences d'admission aux études dentaires. Jusqu'à maintenant, il suffisait à un jeune homme ou une jeune fille de posséder son parchemin de baccalauréat "es arts" pour commencer son cours à la faculté. Dorénavant, en plus des qualifications indispensables actuelles, le candidat devra avoir conservé durant tout son stage d'études classiques un minimum de points dans les matières scientifiques. Ces exigences de la faculté dentaire sont les mêmes que celles préconisées par la faculté de médecine; ce qui veut dire, en pratique, qu'un élève refusé en médecine ne pourra pas s'inscrire en dentisterie, comme tel était souvent le cas.

Le Comité d'admission des candidats est le même en chirurgie dentaire et en médecine.

Cette décision est de nature à hausser le niveau scientifique des futurs praticiens en dentisterie et à faire disparaître cette appréciation erronée du public pour la profession dentaire qu'on considérait inférieure à la profession médicale.

Et pour terminer, soulignons cette décision de l'A.D.C. de créer un service de relations extérieures destiné à renseigner correctement le public sur le rôle du dentiste dans une société moderne bien organisée. Depuis quelques années, les grandes compagnies, qui transigent directement avec le public, ont voulu entretenir de bonnes relations avec lui. Elles ont confié à des spécialistes la tâche de renseigner les populations sur leur production et leur rôle dans l'économie canadienne. De même, la profession dentaire aura bientôt à son emploi, des spécialistes qui verront à développer entre les dentistes et le public, qu'ils sont appelés à servir, les meilleures relations possibles.

GERARD DE MONTIGNY

Résumé de la réunion de l'Association Dentaire Américaine, tenue à Washington, en octobre

1. Le Dr LeRoy Ennis, professeur de radiologie dentaire à l'Université de Pennsylvania a été élu président de l'Association Dentaire Américaine. Le Dr Otto W. Brandhorst, doyen de la faculté dentaire de l'Université de Washington, a été nommé président-élu.
2. On a remis à l'an prochain une demande officielle pour que les dentistes soient inclus au nombre de ceux que reçoivent la pension de vieillesse, sous les spécifications de la loi fédérale de la sécurité sociale.
3. On a approuvé une recommandation pour que les sociétés dentaires des différents états recueillent des octrois pécuniaires pour leur permettre d'établir un système de paiements pré-payés volontaire pour des traitements dentaires.
4. On a passé une résolution pour demander aux forces armées de discontinuer cette pratique de laisser les officiers dentaires donner des soins dentaires gratuitement aux dépendants des officiers et des soldats.
5. On a réitéré l'opposition à un système obligatoire d'assurance-santé.
6. On a demandé d'examiner à nouveau la nécessité de donner deux dentistes pour chaque groupement de 1,000 soldats.
7. On a approuvé en principe l'établissement de comités locaux, où les patients pourraient déposer leurs plaintes contre des praticiens.
8. On a pris les dispositions pour qu'on mette sur pied des programmes d'hygiène dentaire dans tous les milieux.
9. Le Bureau des Directeurs de l'Association Dentaire Américaine ont eu une entrevue du président Truman, au cours de la réunion. M. Truman leur a déclaré que le plan gouvernemental d'assurance-santé avait été "mal interprété de plusieurs façons et en plusieurs milieux". Il déclara: "On m'a accusé de toutes façons d'essayer de jeter notre pays dans un socialisme d'état et dans tout ce qui peut s'ensuivre. J'essaie seulement de doter notre population des soins médicaux et dentaires appropriés et cela de façon à ce qu'elle puisse payer ces frais."
10. En résumé: assistance: 10,652 personnes; budget: \$1,488,425; prochaine réunion: du 8 au 12 septembre 1952, à St-Louis.

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